The Musician's Guide

Theory and Analysis

Third Edition

JANE PIPER CLENDINNING | ELIZABETH WEST MARVIN

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THIRD EDITION

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W. W. NORTON & COMPANY
NEW YORK • LONDON

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Third Edition

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Library of Congress Cataloging-in-Publication Data
Names: Clendinning, Jane Piper, author. | Marvin, Elizabeth West, 1955- author.
Title: The musician's guide to theory and analysis / Jane Piper Clendinning, Florida State University College of Music ; Elizabeth West Marvin, Eastman School of Music.
Description: Third edition. | New York ; London : W. W. Norton & Company, [2016] | ?2016 | Includes index.
Identifiers: LCCN 2015043308 | ISBN 9780393263053 (hardcover)
Subjects: LCSH: Music theory. | Musical analysis.
Classification: LCC MT6 .C57 2016 | DDC 781--dc23
LC record available at http://lccn.loc.gov/2015043308
ISBN 9780393289411 (ebook)

W. W. Norton & Company, Inc., 500 Fifth Avenue, New York, NY 10110
www.wwnorton.com
W. W. Norton & Company, Ltd., Castle House, 75/76 Wells Street, London WIT3QT

To our teachers, colleagues, and students—
with whom we have shared the joy of music,
and from whom we continue to learn—
and, with thanks, to our families
for their patience and support

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Preface

We are pleased to bring to you the third edition of *The Musician's Guide to Theory and Analysis* and its accompanying Workbook, Anthology, and media. With each revision, we hear from many colleagues around the country about what works best for their students, and we are proud to retain these features while introducing something new to each edition. Among the key pedagogical approaches that characterize the *Musician's Guide* series are

- student-centered pedagogy that features clearly written prose, recorded musical examples throughout, and multiple opportunities for reinforcement both in the text and online;
- introduction to each new topic through musical repertoire, using a spiral-learning approach that revisits familiar works while adding new layers of understanding;
- consideration of how analysis might impact performance decisions;
- incorporation of counterpoint and form chapters so that students can study complete works;
- reliance on the basic phrase model to teach principles of harmonic progression; and
- comprehensive coverage that extends through music of

the twentieth and twenty-first centuries.

The Musician's Guide series is the most comprehensive and flexible set of materials available for learning music theory. For theory classes, this textbook and its accompanying Workbook cover a wide range of topics—from fundamentals to harmony, form and analysis, popular music, and twentieth and twenty-first century works. An Anthology features core repertoire for study along with recordings for each work. In this edition, we have added a new **Know It? Show It!** pedagogy, which provides unprecedented opportunities for online learning. Meanwhile, the accompanying *Musician's Guide to Aural Skills* offers complete coordination between theory and aural skills courses, so that the two are mutually reinforcing. Instructors can mix and match the components that are ideal for their classroom.

Features

- Each chapter of the text begins with an **Outline** and an **Overview** paragraph, which serve as a chapter preview.

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Outline

The basic phrase
- Defining the phrase model: T–D–T
- Establishing the tonic area
- Cadential area and cadence types

The notation of four-part harmony
- Writing for voices: SATB

Connecting the dominant and tonic areas
- Resolving the leading tone in V and V^6
- Perfect consonances

Melody and accompaniment
- Writing for keyboard
- Harmonizing a melody
- Creating an accompaniment

The Basic Phrase in SATB Style

Overview

This chapter introduces the basic phrase—the harmonic foundation for most tonal music, from short phrases to entire movements. We arrange its harmonic pillars, I and V, in SATB and keyboard styles, and harmonize a melody with keyboard accompaniment.

Repertoire

Johann Sebastian Bach
"Ach Gott, vom Himmel sieh' darein" ("O God, Look Down on Us from Heaven," Chorale No. 253)
"Wachet auf" ("Awake," Chorale No. 197)
Ludwig van Beethoven
Piano Sonata in D Minor, Op. 31, No. 2 (*Tempest*), mvt. 3
Sonatina in F Major, Op. Posth., mvt. 2
Muzio Clementi, Sonatina in C Major, Op. 36, No. 1, mvt. 1
"Clementine" (folk tune)
Joseph Haydn, Piano Sonata No. 9 in F Major, Scherzo
"Merrily We Roll Along"
Wolfgang Amadeus Mozart, Piano Sonata in C Major, K. 545, mvt. 1
"My Country, 'Tis of Thee"

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- The **Repertoire** list specifies which pieces are featured in the chapter. *The Musician's Guide* uses real music to explain every concept. Each time students encounter a piece from the Anthology, their understanding deepens, as does their knowledge of masterworks of music.
- **Boldface** type signals a new and important term. These terms are listed together at the end of the chapter and

defined in the Glossary in Appendix 2. In the ebook, students can simply mouse over or tap on a term to retrieve its definition.

- **Key Concept** and **Summary** boxes in every chapter identify the most important ideas and summarize key information so that it is instantly available.

KEY CONCEPT Classical-era sonata-form expositions are usually repeated, and generally consist of the following sections:

First theme group	*Transition*	*Second theme group (optional codetta)*
Major key: I	Modulates to V.	V (may include a closing theme, still in V).
Minor key: i	Modulates to III (or v).	III (or v) (may include a closing theme in the same key).

SUMMARY

Intervals may be

- melodic—measured between successive notes,
- harmonic—measured between pitches sounding at the same time,
- simple—spanning an octave or less, or
- compound—spanning more than an octave.

Intervals are labeled by their size and quality.

- Size measures the number of letter names spanned: U, 2, 3, 4, 5, 6, 7, 8.
- Intervals 2, 3, 6, and 7 may be major or minor, but not perfect (e.g., m2, M3, m6).
- Intervals U, 4, 5, and 8 may be perfect, but not major or minor (PU, P4, P5, P8).

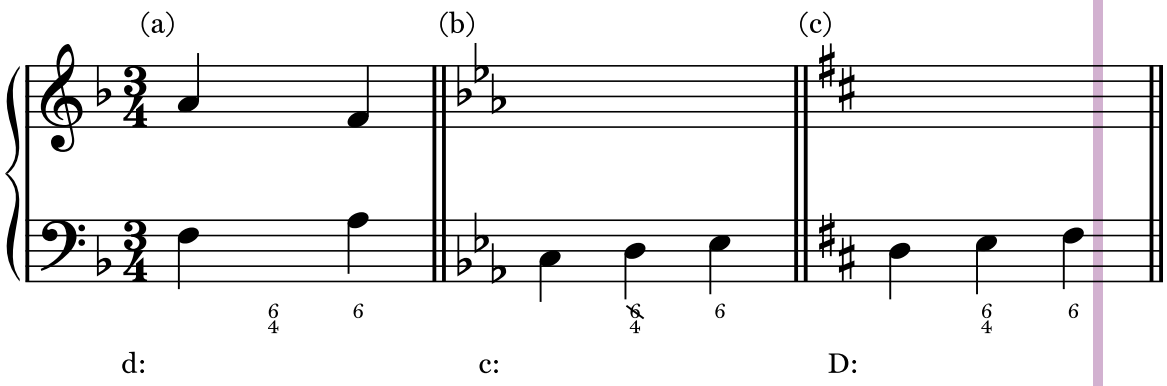
- ***Try it*** boxes, scattered through every chapter, provide immediate opportunities to practice every core concept. Many of these exercises preview upcoming Workbook assignments. Answers appear in Appendix 1 or can be revealed by clicking the "reveal answers" button in the ebook.

Try it #3

Fill in the space between the I and I^6 (or i and i^6) with a passing $^6_4$, from the bass and figures provided. Include a voice

Show answers

exchange with the soprano, and write a Roman numeral analysis.



- **Listening icons** (🎧) identify opportunities for listening—either to the excerpt immediately at hand or to a complete work in the Anthology. These recordings are all accessible online; in the ebook, a click on the icon brings you immediately to a recording of the example shown.
- Since many theory concepts can be learned in more than one way, **Another Way** boxes offer alternative explanations.

Another Way

Another way to spell secondary dominants quickly is to imagine them as "altered" diatonic chords, following the chart below (in C major). Add whatever accidentals are necessary to create a Mm7 quality. Use this method as a shortcut for spelling only; in analysis, you should write V7/IV, not I7, to capture more accurately how the chord functions.

TO MAKE A . . .	START WITH . . .	ALTER QUALITY TO Mm7
V7/IV →	I7 (C-E-G-B) →	I7 (C-E-G-B♭)
V7/V →	ii7 (D-F-A-C) →	II7 (D-F♯-A-C)
V7/vi →	iii7 (E-G-B-D) →	III7 (E-G♯-B-D)
V7/ii →	vi7 (A-C-E-G) →	VI7 (A-C♯-E-G)
V7/iii →	vii∅7 (B-D-F-A) →	VII7 (B-D♯-F♯-A)

- **Did You Know?** boxes at the end of each chapter explain certain historical developments, fill in background for composers and pieces featured in the chapter, or supply

more advanced information. These are a source of enrichment and come from stories that we have told in class to our students.

Did You Know?

You will find a complete list of Messiaen's modes of limited transposition in his book *The Technique of My Musical Language*, translated by John Satterfield (Paris: Leduc, 1956). Messiaen wrote the *Quartet for the End of Time* while incarcerated in a prisoner-of-war camp during World War II. He chose his text from the Revelation of St. John. Messiaen says this about the instrumental ensemble, all fellow prisoners:

> The unusual group for which I wrote this quartet—violin, clarinet, cello and piano—is due to the circumstances surrounding its conception. I was a prisoner-of-war (1941), in Silesia, and among my fellow prisoners were a violinist . . . a clarinetist . . . and a cellist . . . myself being the pianist. . . . Why this choice of text? Perhaps because, in these hours of total privation, the basic forces which control life reasserted themselves. (From the liner notes to Angel/EMI recording S-37587.)

It is remarkable that an artwork of such power was composed in such dire circumstances—a testament to the human spirit.

- **Terms You Should Know** and **Questions for Review** provide essential end-of-chapter review.

TERMS YOU SHOULD KNOW

applied chord
chromatic voice exchange
cross relation
modulation
secondary dominant
secondary leading-tone chord
temporary tonic
tonicization
tonicized half cadence

QUESTIONS FOR REVIEW

1. Where are secondary dominants used? secondary leading-tone chords?
2. What do you need to remember when spelling secondary dominants? secondary leading-tone chords?
3. What are the special voice-leading guidelines for resolving secondary dominant chords? secondary leading-tone chords?
4. Under what circumstances are cross relations permitted in common-practice style?
5. In music for your own instrument, find two examples of secondary dominants (in two different pieces or keys). What guidelines can help you scan the score and find them quickly?

Workbook

Each **Workbook** chapter is organized so that ideas are reinforced in the same order they were presented in the chapter. Each assignment consists of a tear-out-and-turn-

in worksheet. The Workbook includes the following:

- Short exercises such as chord spelling and two- or three-chord connections.
- Opportunities to write music—through melody harmonizations, figured bass realizations, or other short composition projects—most based on passages from music literature rather than contrived practice exercises. This edition features even more opportunities for composition.
- Analyses, from short passages to phrases, periods, and entire works. Longer analyses are often taken from works in the Anthology, allowing you to revisit the core repertoire and hear these works again.

We provide a **Teacher's Edition** that includes all answers, formatted to match the student pages, for easy grading. Contact your Norton representative to receive your copy.

Online Resources

An **ebook**, included with every new copy of the text, allows students to read on a wide variety of devices. Recordings of music examples are only a click or tap away.

Along with the ebook, there is a new **Know It? Show It!** online pedagogy, designed to enhance student learning.

- As they read each chapter, students watch short video tutorials, created by Brad Osborn (University of Kansas) and Anna Gawboy (Ohio State University), keyed to each topic discussed in the text. Tutorials show students how to work through the problems they will encounter in their Workbook assignments.

- Students take carefully graduated **adaptive online quizze**s to deepen their understanding and demonstrate mastery of the material. **InQuizitive**, a new formative assessment tool, with questions written by Philip Duker (University of Delaware) and Sarah Sarver (Oklahoma City University), asks students questions until they've demonstrated that they understand the chapter material. When students have trouble, tailored feedback points them back to specific spots in the book and video tutorials. And once students complete the activity, data about their performance can be reported to your campus learning-management system to help you assess which topics need more review and which are well understood.
- In addition to the print version, the **online Workbook** makes nearly all exercises available in Noteflight, an online notation program that allows students to complete their homework and send it to their instructor electronically. Instructors can grade work and return it to students paperlessly.

With **Total Access**, all students who purchase a new book—regardless of format—will receive access to all the media, including the ebook and **Know It? Show It!** pedagogy. Students can access the media in a variety of ways:

- The **ebook** includes links to all accompanying media.
- With Norton **Coursepacks**, instructors can bring the media into their campus learning-management systems.
- At digital.wwnorton.com/guidetotheory3, students and instructors can launch all the online resources included with this text.

Anthology

Study of the **Anthology** works is integral to the book's

approach to learning music theory—we strongly believe that the concepts we teach must emerge from the music itself. We have chosen music that we like, that many of our students have performed, and that they (and we) have enjoyed exploring together (see the complete list at back of book). Some works should be familiar to students ("Greensleeves," "The Stars and Stripes Forever"), while others will probably be new (Edgard Varèse's *Density 21.5*, Clara Schumann's Romanze). There are classics of the repertoire (Mozart and Beethoven piano sonata movements, German Lieder selected from Schubert and Schumann song cycles, and groundbreaking compositions by Schoenberg and Webern); pieces for varied performing ensembles (solo flute, cello, and violin; chamber orchestra, string quartet, band, and choir, among others); and pieces in contrasting musical styles—from American popular songs to French mélodie, from piano ragtime to minimalist music, from marches for band to hymns and anthems for choirs. While the Anthology includes gems of familiar repertoire, we have also included wonderful but less familiar works by women and African American composers (Fanny Mendelssohn Hensel, Clara Schumann, Scott Joplin), as well as diverse works written within the last century.

Every chapter begins by discussing one or two examples from the Anthology. With the text's spiral-learning approach, students return to Anthology selections again and again. A single piece might be used to illustrate scales, triads, cadence types, secondary dominants, common-chord modulation, sequence, and binary form. Because the Anthology works hand-in-hand with the text, revisions to the chapters in the third edition have provided opportunities to explore new repertoire. For example, we have expanded coverage of early twentieth-century music before the advent of atonality; the Anthology now includes new songs by Ives and Debussy, Ravel's *Pavane pour une*

infant défunte, and a movement from Stravinsky's piano transcription of *Petrouchka*.

Anthology recordings, performed by musicians at the Eastman School of Music, are included with each new copy of the text and are available online.

Aural Skills

The Musician's Guide to Theory and Analysis is the only theory book that is accompanied by a fully integrated companion text: *The Musician's Guide to Aural Skills*. This text consists of two volumes that can be used together with this text or on their own. Taken together, the two volumes provide all the materials needed for the aural skills sequence, from fundamentals to post-tonal ear training.

- The **Sight-Singing** volume features over 800 carefully selected melodies, rhythms, improvisation activities, and keyboard exercises.
- The **Ear-Training** volume includes hundreds of short, self-grading *Try it* dictations that help students identify common tonal gestures. Over 400 contextual-listening questions guide students through the process of taking dictation from performances of real music.
- New for this edition, both volumes of *The Musician's Guide to Aural Skills* have been organized in 40 chapters to match exactly the chapters of *The Musician's Guide to Theory and Analysis*, so that students can study the same concepts simultaneously in theory and aural skills. This coordination ensures that all terminology and pedagogical concepts match between the "written" and aural texts.

What's New?

We have worked to incorporate the ideas of many helpful reviewers, while retaining the key features of an effective pedagogical strategy.

- With new **Know It? Show It!** pedagogy, students get access to multiple short video tutorials for each chapter, adaptive written and aural quizzes, and an online Workbook free with every new copy of the text.
- Throughout the text, the prose has been streamlined, making important points even easier to grasp.
- Every chapter in the book has undergone revision, replacing repertoire from the second edition with fresh new pieces. We have revised and reorganized material in the chapter on sequences, introduced topic theory to our discussion of variation and sonata forms, and made countless small changes to improve clarity and better annotate musical examples so that you can see in a glance what they illustrate.
- Chapters on form and twentieth-century theory have been reorganized for a smoother pedagogical progression. We have placed the Variations chapter earlier, so that students can explore this form as soon as they have sufficient harmonic understanding to do so. We have expanded our discussion of the Concerto, and moved Rondo later, combined with Sonata-Rondo and Large Ternary. In Part IV, we have expanded our discussion of early twentieth-century works before atonality, and consolidated the discussion of serialism into a single chapter. We also reorganized our treatment of rhythm, meter, and form after 1900 so that it follows a roughly chronological sequence: an initial chapter early in Part IV explores innovations in the first half of the twentieth century, while a second chapter near the end of the book discusses innovations after 1945.
- The Anthology features 26 new works, including

additional compositions by major composers such as Bach and Beethoven, as well as new twentieth-century works by Berg, Ives, Debussy, and Ravel. Other new additions complement the form chapters: a variation movement for band by Gustav Holst, a very early minuet by Mozart, a large Romantic ternary movement by Clara Schumann, a Broadway-style song from Jerome Kern, and so on.

Our Thanks to . . .

A work of this size and scope is helped along the way by many people. We are especially grateful for the support of our families—Elizabeth A. Clendinning, David Stifler, Rachel Armstrong Bowers, Rocky Bowers, and Glenn, Russell, and Caroline West. Our work together as co-authors has been incredibly rewarding, and we are thankful for that collaboration and friendship. We also thank Joel Phillips (Westminster Choir College) for his many important contributions—pedagogical, musical, and personal—to our project and especially for the coordinated aural skills component of this package, *The Musician's Guide to Aural Skills*, with Paul Murphy (Muhlenberg College), who has become a key member of our team. While working on the project, we have received encouragement and useful ideas from our students at Florida State University and the Eastman School of Music as well as from music theory teachers across the country. We thank these teachers for their willingness to share their years of experience with us.

For subvention of the recordings that accompany the text and Anthology, and for his continued support of strong music theory pedagogy, we thank Jamal Rossi (Dean of the Eastman School of Music). For performance of many of the short keyboard examples in the text, we thank Richard Masters, whose sight-reading abilities, flexibility, and good

grace are all appreciated. We also thank Don Gibson (former Dean of Florida State University's College of Music) for his enthusiasm and unfailing support. For pedagogical discussions over the years, we are grateful to our colleagues and graduate students at Florida State University and the Eastman School of Music, and to the College Board's AP Music Theory Test Development Committee members and AP Readers. Special thanks to Mary Arlin for her thorough and meticulous checking and generous help with Workbook exercises.

We are indebted to the detailed work of our prepublication reviewers, whose careful reading of the manuscript inspired many improvements, large and small. For this edition, we thank Daniel Arthurs (University of Tulsa), Christopher Bartlette (Binghamton University), Jack Boss (University of Oregon), Lyn Burkett (University of North Carolina–Asheville), Gregory Decker (Bowling Green State University), Christopher Doll (Rutgers University), Ryan Jones, (University of Wisconsin–Eau Claire), Greg McCandless (Appalachian State University), Brad Osborn (University of Kansas), Matthew Santa (Texas Tech University), and Peter Silberman (Ithaca College). For previous editions, reviewers have included Douglas Bartholomew (Montana State University), Rhett Bender (Southern Oregon University), Vincent Benitez (Pennsylvania State University), Per Broman (Bowling Green State University), Poundie Burstein (Hunter College), Lora Dobos (Ohio State University), Nora Engebretson (Bowling Green State University), Benjamin Levy (University of California–Santa Barbara), Peter Martens (Texas Tech University), Paul Murphy (Muhlenberg College), Tim Pack (University of Oregon), Ruth Rendleman (Montclair State), Elaine Rendler (George Mason University), Stephen Rodgers (University of Oregon), Mark Spicer (Hunter

College), Reynold Tharp (University of Illinois), Gene Trantham (Bowling Green State University), Heidi Von Gunden (University of Illinois), James Wiznerowicz (Virginia Commonwealth University), and Annie Yih (University of California at Santa Barbara). We also acknowledge that the foundation for this book rests on writings of the great music theorists of the past and present, from the sixteenth to twenty-first century, from whom we have learned the "tricks of our trade" and whose pedagogical works have inspired ours.

For production of all recordings, our thanks go to recording engineers Mike Farrington and John Ebert, who worked tirelessly with Elizabeth Marvin on recording and editing sessions, as well as to Helen Smith, who oversees Eastman's Office of Technology and Media Production. We also acknowledge the strong contributions of David Peter Coppen, archivist of the Eastman Audio Archive, for contacting faculty and alumni for permission to include their performances among our recordings. We finally thank the faculty and students of the Eastman School who gave so generously of their time to make these recordings. The joy of their music making contributed mightily to this project.

We are indebted to the W. W. Norton staff for their commitment to *The Musician's Guide* Series and their painstaking care in producing these volumes. Most notable among these are Justin Hoffman, who steered the entire effort with a steady hand and enthusiastic support; Susan Gaustad, whose knowledge of music and detailed, thoughtful questions made her a joy to work with; and Maribeth Payne, whose vision helped launch the series. We are grateful for Norton's forward-thinking technology editor Steve Hoge, who coordinated development of the ebook, video lessons, InQuizitive activities, online Workbook, and audio recordings with the assistance of Meg Wilhoite, Kate Maroney, William Paceley, and Stephanie Eads. Jodi Beder

was invaluable in checking assignments, correcting errors, and copyediting the Workbook. Lissi Sigillo and Rubina Yeh created the book's design for all parts of the *Musician's Guide* package, Michael Fauver project-edited the Workbook and Anthology, Debra Nichols provided expert proofreading, Grant Phelps assisted in preparing the manuscript and arranging for reviews, Mary Dudley developed marketing strategies, and Megan Jackson pursued copyright permissions and helped us understand copyright law. David Botwinik set the text and Workbook, and Andy Ensor and Jane Searle oversaw the production of these multifaceted texts through to completion. Our gratitude to one and all.

Jane Piper Clendinning
Elizabeth West Marvin

To Our Students: Why Study Music Theory?

Have you ever tried to explain something without having the right words to capture exactly what you mean? It can be a frustrating experience. Part of the process of preparing for a professional career is learning the special language of your chosen field. To those outside the profession, the technical language may seem like a secret code intended to prevent the nonspecialist from understanding. For example, a medical doctor might speak of "cardiac infarction," "myocardia," or "angina" when referring to conditions that we might call (inaccurately) a heart attack. To those who know the technical terms, however, one or two words capture a wealth of associated knowledge—years of experience and books' worth of information.

Words and symbols not only let us name things, they also help us to communicate how separate elements work together and group into categories. Music theory provides useful terms and categories, but it does more than that: it also provides a framework for considering *how* music is put together, *what* musical elements are in play, *when* particular styles were prevalent, and *why* music sounds the way it does. Understanding the vocabulary for categorizing and explaining musical events will prepare you to develop your

own theories about the music you are playing and studying.

The purpose of this book is to introduce you to the technical language of music. In the first part, you will learn (or review) basic terminology and notation. Mastery of terminology will allow you to communicate quickly and accurately with other musicians; mastery of notation will allow you to read and write music effortlessly. You will next learn about small- to medium-scale musical progressions and how they work. Knowledge of these progressions will help you compose music in particular styles, structure improvisations on your instrument, make interpretive decisions in performance, and improve your sight-reading skills.

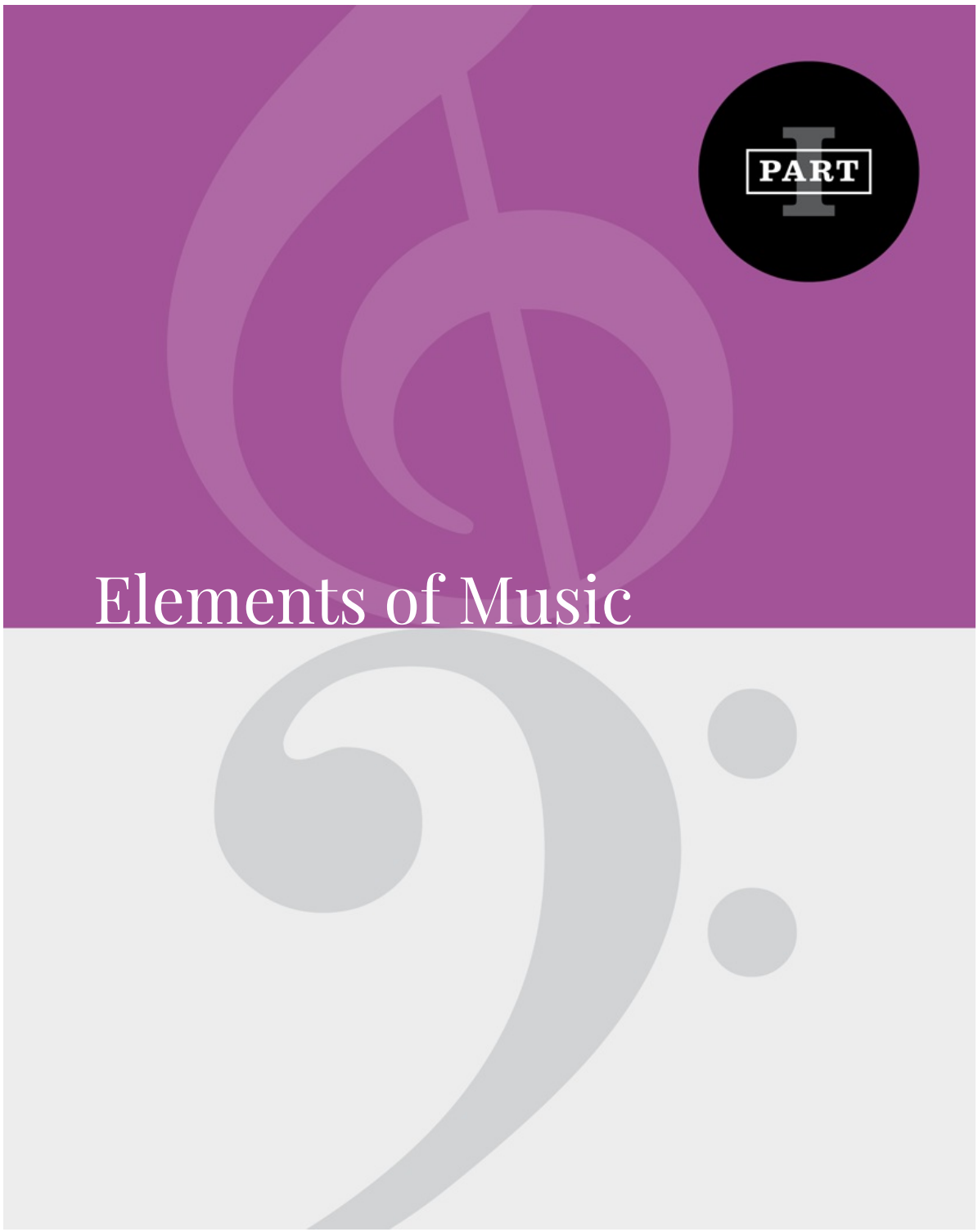
Later parts of the book deal with larger musical contexts, such as how sections of music fit together to make musical form. You will learn how to write in standard musical forms in differing styles, how to divide the pieces you perform into sections, and how to convey your understanding of form in performance. In the final chapters, we explore ways that these concepts are transformed (or abandoned) in music of the twentieth and twenty-first centuries, and consider new theories that have arisen to explain music structure in this repertoire. We will apply this information in the same ways as in previous chapters—with direct links to performance, analysis, and writing.

We have written this text with you and your learning at the forefront. With the purchase of a new book, you receive **Total Access** to a wealth of media and learning aids—from an **ebook** version of the text to recordings, formative quizzes, an online Workbook, and even video lessons that you can watch and review as often as you wish. Each chapter begins with an overview of what you will learn and ends with a list of important terms and questions for review. In between, we provide clear prose dotted with many musical examples—nearly all of which you can hear with a click on the website

or ebook. Our ***Try it*** exercises give you practice on concepts (with answers in an appendix, or with a click in the ebook) that will prepare you for **Workbook** assignments, and our **Another Way** and **Summary** boxes give you new ways to think about and consolidate the concepts you are studying. The **Anthology** that accompanies this text is full of pieces that we love, and that we hope you will come to love, too. We chose them for maximum variety of style, instrumentation, and genre; we also chose works that many college students will have performed in lessons and concerts themselves. Every piece in the Anthology comes with a recording so that you can listen easily. Feel free to compare and contrast these performances with others you find online and in the library; think about which ones you prefer and why. We encourage you to explore the ebook, online resources, and recordings even before class begins, and throughout each semester of your undergraduate training. We hope these tools will help make your learning more interactive and musical.

One of the most important things to remember about music theory is that it is all about *music*—how and why music sounds the way it does, and what elements of a piece or a performance move us. You will be listening to music in every chapter, so that you can associate terms and notation with sounding music. We want you to make connections every day between what you are learning in this book and the music you are playing, singing, hearing, and writing. Music theory is absolutely relevant to the music making we do—whether it's listening, performing, analyzing, or composing. You will see references in nearly every chapter to the way its content might inform your music making. Use this information! Take it to the practice room, the studio, and the rehearsal hall to make the connection between your coursework and your life as a practicing musician. We hope the concepts you learn here will impact the ways you think

about music for many years to come.



Elements of Music

1 Pitch and Pitch Class

Outline

Introduction to Pitch: Letter names
- Pitch classes and pitches

The piano keyboard
- White keys
- Black keys: Flats and sharps
- Enharmonic equivalents
- Intervals: Half steps and whole steps
- Double flats and sharps

Reading pitches from a score
- Staff notation
- Treble clef
- Bass clef
- C-clefs
- Naming registers
- Ledger lines
- Writing pitches on a score

Dynamic markings

Style periods

Overview

When we read notated music, we translate its symbols into sound—sung, played on an instrument, or heard in our heads. We begin our study of music theory by learning to read and write the symbols that represent pitch, one of music's basic elements.

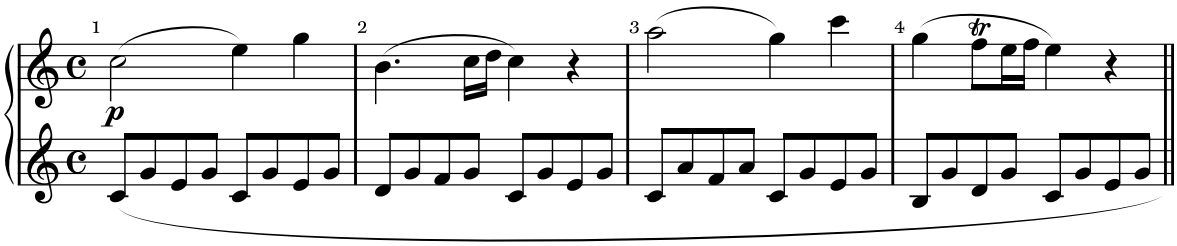
Repertoire

Scott Joplin, "Solace"
Wolfgang Amadeus Mozart, Piano Sonata in C Major, K. 545, mvt. 1
"Ubi caritas et amor" (Gregorian chant; "Where charity and love are")

Introduction to Pitch: Letter Names

Listen to an excerpt from a piano work by Wolfgang Amadeus Mozart as you follow Example 1.1, the musical notation (or **score**). Many of the score's elements will be introduced in this chapter, beginning with the notes you see here.

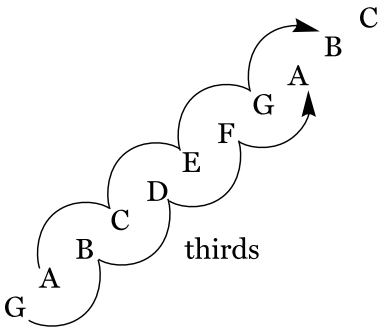
EXAMPLE 1.1: Mozart, Sonata in C Major, K. 545, mvt. 1, mm. 4–7

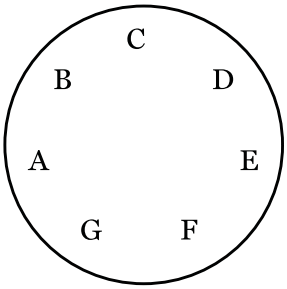


By the end of the chapter, you will be able to name each note in this example. The first piece of information you need is that musical notes are named with the first seven letters of the alphabet—A, B, C, D, E, F, G—repeated endlessly.

KEY CONCEPT Imagine these seven letters ascending like stairs or arranged around a circle like a clock, as in Figure 1.1. "Count" up or down in the series by reciting the letters forward (clockwise) or backward (counterclockwise). To count up beyond G, start over with A; to count down below A, start over with G.

FIGURE 1.1: Seven letter names





You will read music much more fluently if you also practice reading alternate letter names, as marked in the figure: G–B–D–F–A or A–C–E–G–B. This is called counting in thirds, because each pair of notes spans three letter names: A–C encompasses A, B, and C.

Learning to count in letter names is a fundamental musical skill. Practice counting backward and forward from A to A, C to C, G to G, and so on, until you feel as comfortable counting backward as forward. Think of the movement as "upward" when you count forward, and "downward" when you count backward. For example, five above C, counting forward, is G (C–D–E–F–G), and six below E, counting backward, is again G (E–D–C–B–A–G). Always include the first and last letters in the series, and count the first letter name as 1: three above F is A, not B (count F–G–A, not G–A–B).

Try it #1

Find each letter name requested.

A. Remember to count the given note as 1.

Show answers

(1) 7 above G: **F**
(2) 6 above F: _____
(3) 2 above D: _____
(4) 4 below B: _____
(5) 3 below C: _____
(6) 5 below A: _____

(7) 3 above E: _____
(8) 2 below C: _____
(9) 3 above G: _____
(10) 2 above B: _____
(11) 2 above F: _____
(12) 4 above C: _____
(13) 6 below A: _____
(14) 7 below E: _____
(15) 5 above G: _____

B. Count in thirds above the pitch given. Write one letter name in each blank.

Show answers

(1) G: **B** – **D** – _____ – _____
(2) D: _____ – _____ – _____ – _____
(3) A: _____ – _____ – _____ – _____
(4) B: _____ – _____ – _____ – _____
(5) C: _____ – _____ – _____ – _____

Pitch Classes and Pitches

In this seven-name system, each letter name reappears every eighth position: eight below C is another C. Notes eight letter names apart make an **octave**. They sound similar, a principle known as **octave equivalence**.

KEY CONCEPT Octave-related notes belong to the same **pitch class** and have the same letter name. The pitch class D, for example, represents every D in every octave. A **pitch**, on the other hand, is one that sounds in one particular octave.

Listen again to the first notes of the Mozart excerpt (Example 1.1) to hear pitch class C played in two octaves simultaneously: two different pitches that belong to the same pitch class.

The Piano Keyboard

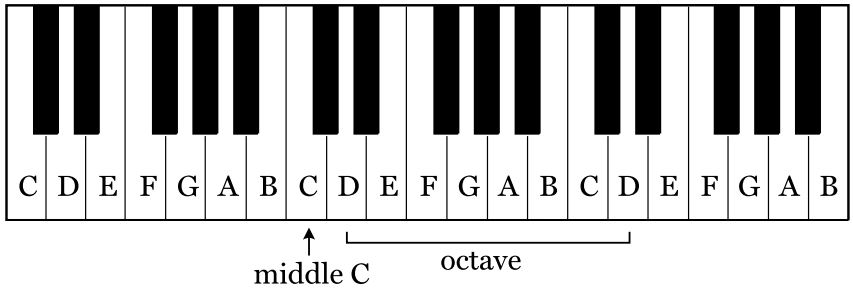
White Keys

Throughout this text, we will reinforce concepts with the help of a keyboard. As a musician, you will find keyboard skills essential, whatever your primary instrument. Because of the piano's great range and ability to sound several pitches simultaneously, keyboard skills allow you to play simple accompaniments, demonstrate musical ideas, and harmonize melodies.

The white keys of the keyboard correspond to the seven letters of the musical alphabet, as shown in Figure 1.2. Immediately to the left of any group of two black keys is pitch class C; immediately to the left of any three black keys is pitch class F. **Middle C** is often used as a reference point; it is the C closest to the middle of the piano keyboard.

KEY CONCEPT No black key appears between white keys E and F or between B and C.

FIGURE 1.2: Piano keyboard with letter names

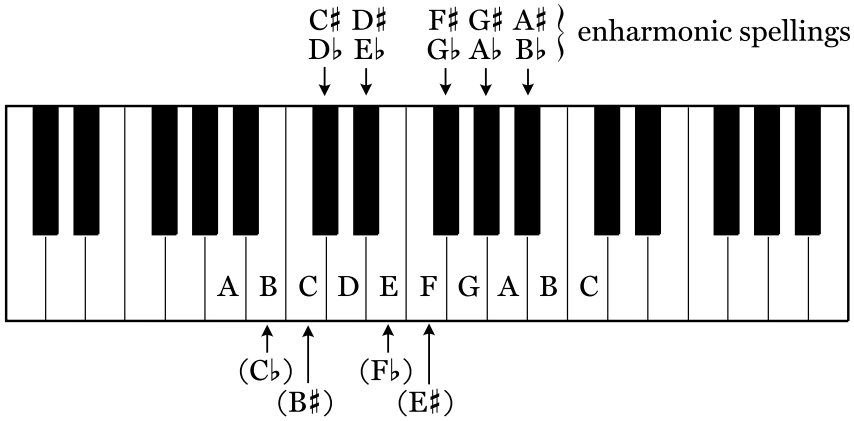


Black Keys: Flats and Sharps

The black-key pitches are named in relation to the white-key

pitches. The black key immediately above (to the right of) any white key gets the white note's name plus a **sharp** (♯). As Figure 1.3 shows, each group of two black keys is called C♯ (C-sharp) and D♯, and each group of three black keys is F♯, G♯, and A♯. At the same time, the black key immediately below (to the left of) any white key gets the white note's name plus a **flat** (♭). That means the group of two black keys can also be called D♭ (D-flat) and E♭, and the three black keys G♭, A♭, and B♭. Every black key therefore has two possible names: one with a sharp and one with a flat. The two names are **enharmonic** spellings.

FIGURE 1.3: Keyboard with enharmonic pitches marked



The sharp and flat symbols are called **accidentals** (although there is nothing "accidental" about them). A third common accidental, a **natural** (♮) cancels a sharp or flat. It returns the pitch to its "natural" state and white-key location on the keyboard.

Enharmonic Equivalents

Enharmonic pitches, with the same sound but different names (B♭ = A♯), belong to the same pitch class. Not all sharped or flatted pitches are black keys, however: if you raise an E or B to the closest possible note on the keyboard, you get a white key,

not a black one. E♯ is a white key enharmonic with F, just as B♯ is white and enharmonic with C. On the flat side, C♭ is enharmonic with B, and F♭ is enharmonic with E. Find these pitches on a keyboard or in Figure 1.3.

Try it #2

Name the enharmonic equivalent.

Show answers

(1) G♭: **F♯**
(2) B♯: _____
(3) A♯: _____
(4) D♭: _____
(5) B: _____
(6) A♭: _____
(7) E♯: _____
(8) B♭: _____
(9) D♯: _____
(10) E: _____
(11) F♯: _____
(12) F: _____

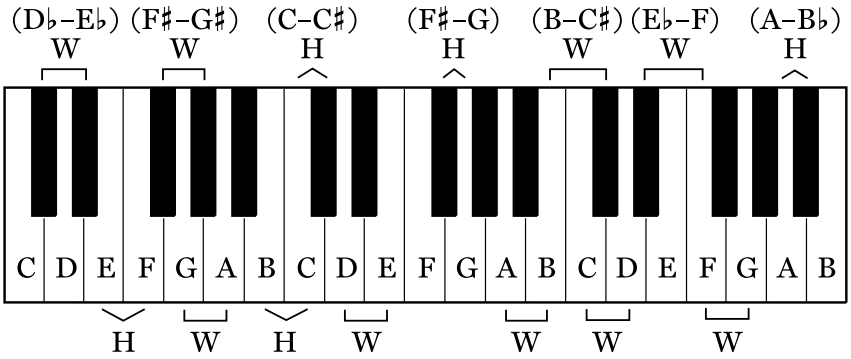
Intervals: Half Steps and Whole Steps

The distance between any two notes is called an **interval**. Two intervals that serve as basic building blocks of music are half steps and whole steps.

KEY CONCEPT A **half step** (or **semitone**) is the interval between any pitch and the next closest pitch on the keyboard. The combination of two half steps forms a **whole step** (or **whole tone**); a whole step always has one note in between its two notes.

On a keyboard, a half step spans a white note to a black note (or black to white)—except in the case of B to C and E to F, as shown in Figure 1.4. Whole steps span two keys the same color—again except in the case of B–C and E–F. A whole step above E is not F, but F♯; a whole step below C is not B, but B♭.

FIGURE 1.4: Examples of half and whole steps at the keyboard



SUMMARY

1. The distance between any two notes is an interval. Two important intervals are half and whole steps.
2. Half steps span keys of different colors: white to black or black to white.
   - Exceptions are E–F and B–C, the white-key half steps.
3. Whole steps span keys the same color: white to white or black to black.
   - Exceptions are E♭–F, E–F♯, B♭–C, and B–C♯.
4. Double-check the spelling of any half or whole step that includes E, F, B, or C.

Try it #3

Try it #3

A. Name the pitch a half step above or below the given pitch, and give an enharmonic equivalent where possible.

Show answers

(1) Above G: **G♯** or **A♭**
(2) Below C♯: _____ or _____
(3) Above E: _____ or _____
(4) Below B♭: _____ or _____
(5) Above D: _____ or _____
(6) Below F: _____ or _____
(7) Below G♯: _____ or _____
(8) Below A♭: _____ or _____

B. Identify the distance between the two notes by writing W (whole step), H (half step), or N (neither).

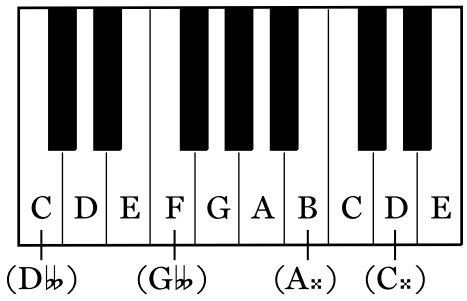
Show answers

(1) F♯ to E: **W**
(2) C♯ to D: _____
(3) B♭ to A♭: _____
(4) C to B♭: _____
(5) E to F: _____
(6) F to G: _____
(7) B♯ to C: _____
(8) D♭ to E♭: _____

Double Flats and Sharps

Two remaining accidentals appear less frequently in musical scores. A **double sharp** (𝄪) raises a pitch two half steps (or one whole step) above its letter name; a **double flat** (𝄫) lowers a pitch two half steps below its letter name. For example, the pitches G𝄫 and F are enharmonic, as are A𝄪 and B (Figure 1.5).

FIGURE 1.5: Enharmonic pitches on the keyboard


C D E F G A B C D E
(D𝄫) (G𝄫) (A𝄪) (C𝄪)

Reading Pitches from a Score

Staff Notation

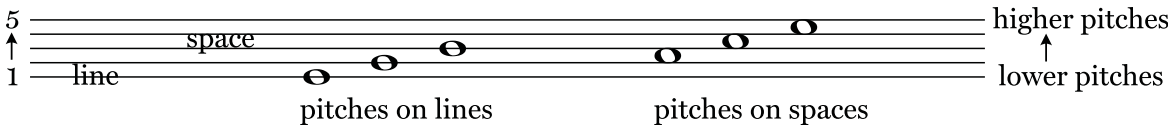
The earliest forms of Western notation showed rising or falling melody lines, without identifying pitches by letter name. With the invention of the **staff** (the plural is "staves"), specific pitches could be notated by placing them on lines or spaces. Early staves had a variable number of lines (Figure 1.6a), but the modern staff consists of exactly five lines and four spaces (part b), which are generally read from bottom to top, with the bottom line called the first and the top line the fifth.

FIGURE 1.6: The staff

(a) Gregorian chant, "Ubi caritas et amor"

Translation: Where charity and love are, God is there.

(b) Modern staff

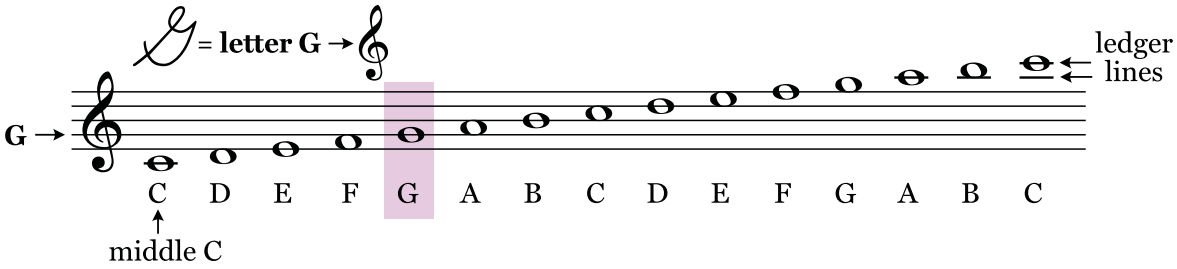


Treble Clef

To identify notes on the staff's lines and spaces, you need a **clef**,

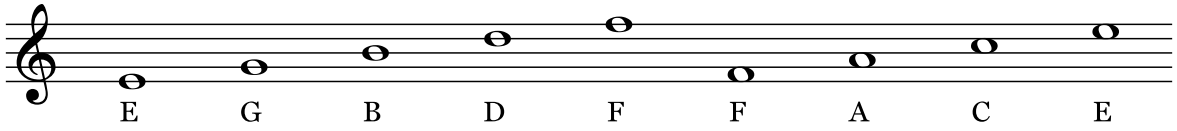
the symbol that appears to the far left of every staff. The clef tells which line or space represents which pitch (in which octave). The treble clef is used for higher notes (those played by a piano's right hand or higher instruments and voices). This clef is also called the G-clef: its shape resembles a cursive capital G, and the end of its central curving line rests on the staff line G. Example 1.2 shows how all the other pitches can be read from G, counting up and down in the musical alphabet, one pitch for each line and space.

EXAMPLE 1.2: Treble clef (G-clef)



To write notes lower or higher than the staff, we add short lines called **ledger lines** below or above it, as in Example 1.2. Memorize the note names for each line and space. Learn the "line notes" together and the "space notes" together, as in Example 1.3 (these should be familiar from counting letter names in thirds).

EXAMPLE 1.3: Treble-clef lines and spaces



Another

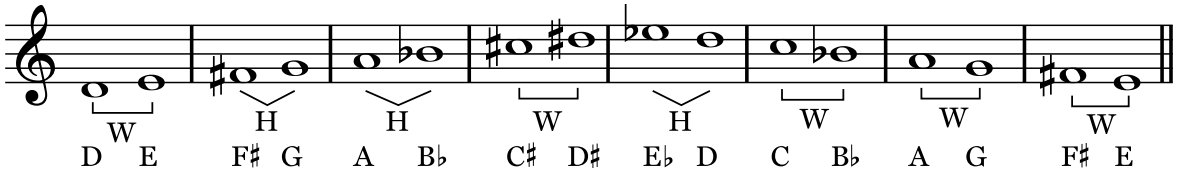
Another Way

To memorize the lines together or spaces together, you might make up sentences whose words begin with their letter names. The treble-clef lines (E-G-B-D-F), for example, might be "Every Good Bird Does Fly" or "Every Good Bond Drives Fast." The spaces of the treble clef make it easy for you: they simply spell F-A-C-E.

Example 1.4 shows whole and half steps on the treble staff, notated with accidentals. Listen to each one to hear the difference in sound between these intervals.

KEY CONCEPT When you write pitches on the staff, place the accidental before (to the left of) the **note head**, the main (oval) part of the note. When you say or write the letter names, however, the accidental goes after the letter name; for example, C ♯ (C-sharp).

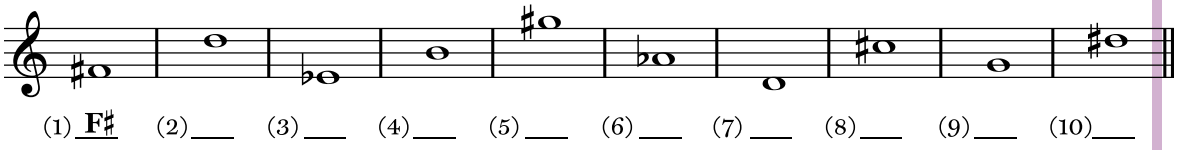
EXAMPLE 1.4: Half and whole steps on a staff



Try it #4

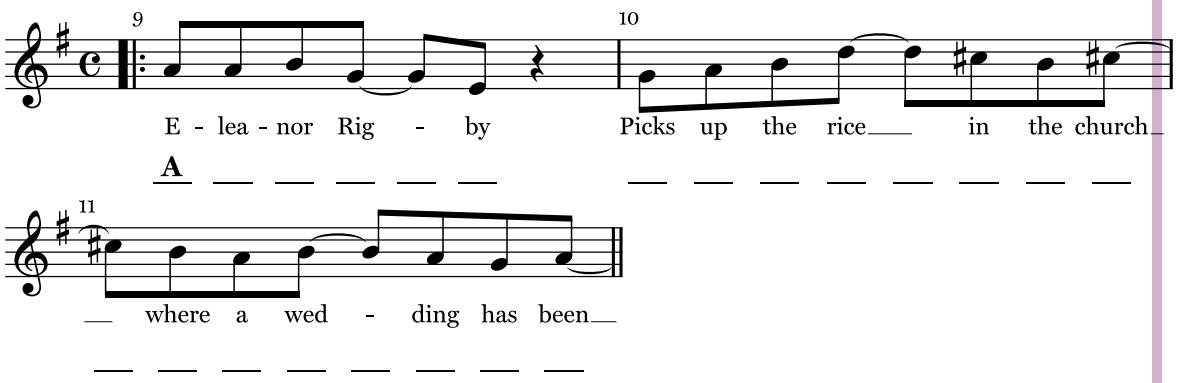
A. Write the letter names in the blanks below.

Show answers



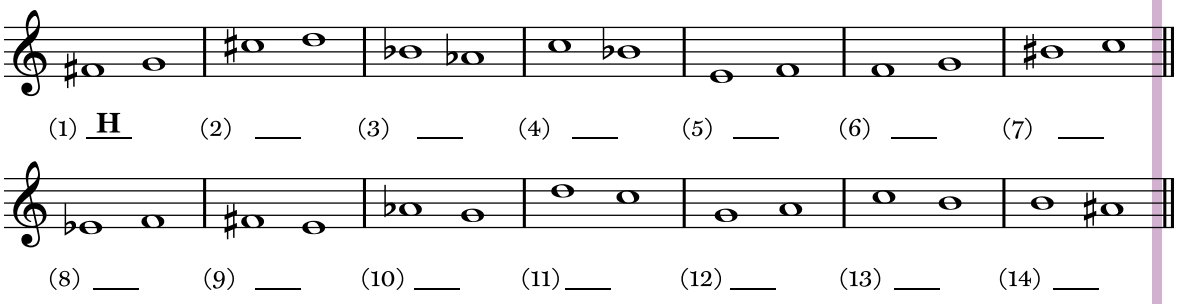
B. Write the letter name in every blank below (including when the note is repeated). John Lennon and Paul McCartney, "Eleanor Rigby," mm. 9–11

Show answers



C. Identify whether each pair of pitches spans a whole step (W), half step (H), or neither (N).

Show answers

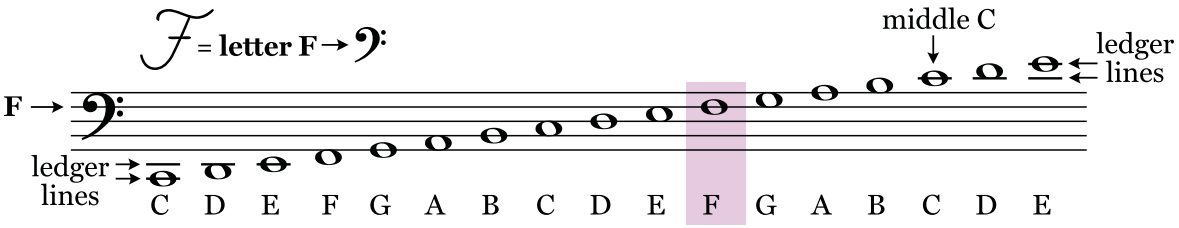


Bass Clef

Lower notes (for a pianist's left hand or lower instruments like

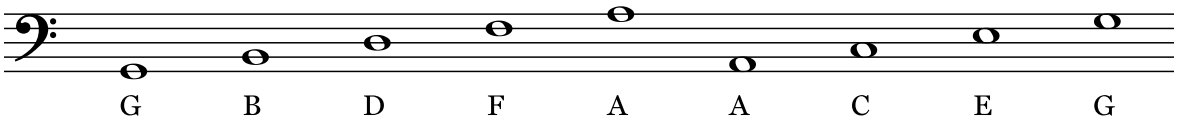
the cello) are designated with a **bass clef**, or F-clef. This clef resembles a cursive capital F, and its two dots surround the line that represents F (Example 1.5). You can count other pitches from F or memorize them by their position on the staff.

EXAMPLE 1.5: Bass clef (F-clef)



Example 1.6 shows the bass-clef lines and spaces. One way to remember the lines (G-B-D-F-A) might be "Great Big Doves Fly Away." The spaces (A-C-E-G) could be "All Cows Eat Grass" or "All Cars Eat Gas."

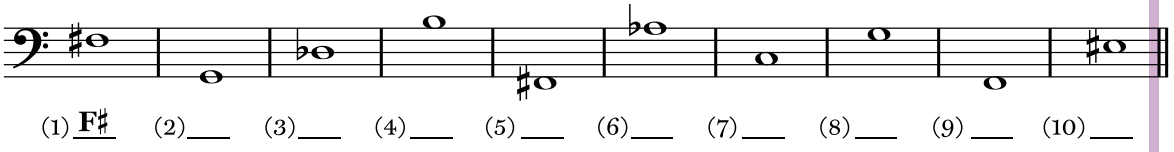
EXAMPLE 1.6: Bass-clef lines and spaces



Try it #5

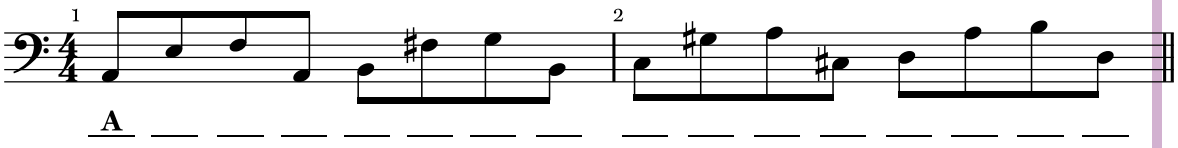
A. Write the letter names in the blanks below.

Show answers



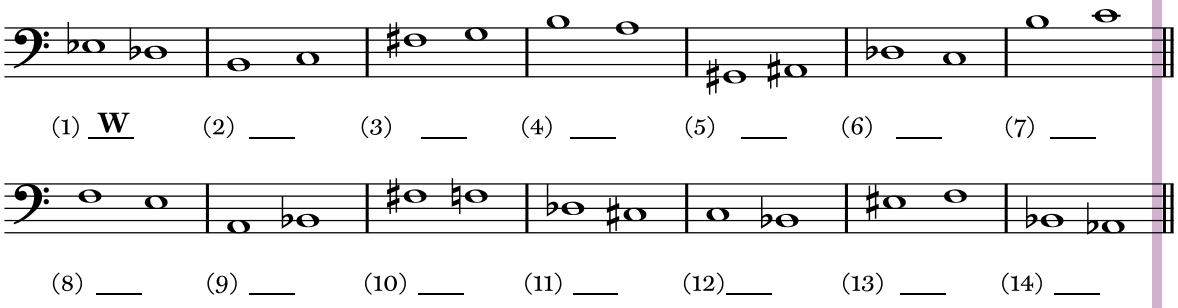
B. Write the letter name in each blank below.
Purcell, “Music for a While,” mm. 1–2 (bass-clef part)

Show answers



C. Identify whether each pair of pitches spans a whole step (W), half step (H), or neither (N).

Show answers

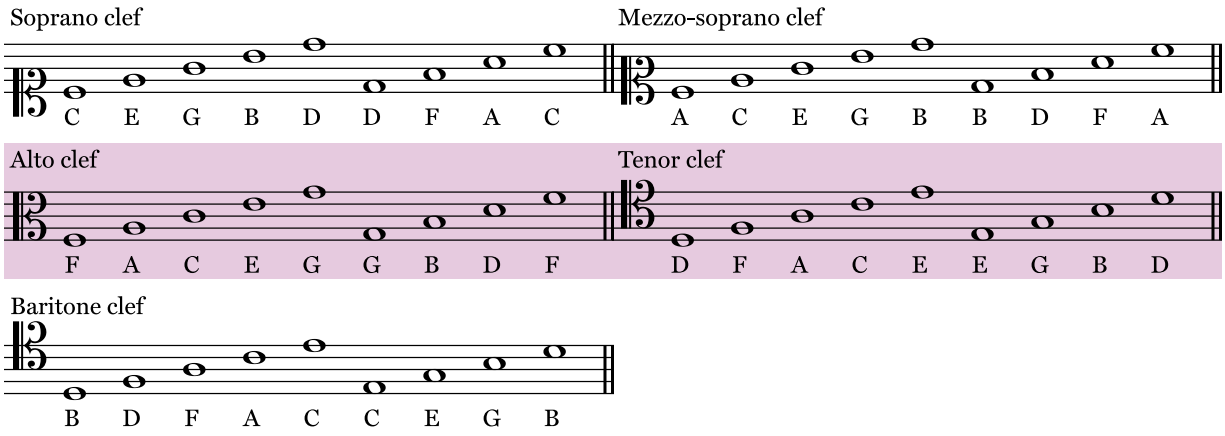


C-Clefs

Although music reading starts with knowledge of the treble and bass clefs, you should learn how to read the C-clefs as well, since they are standard in orchestral and chamber music scores. A **C-clef** is a “movable” clef: its distinctive shape—𝄡—identifies middle C by the point on the staff at which the two curved lines join together in the middle, as illustrated in Example 1.7. Depending on its position, the clef may be called a soprano, mezzo-soprano, alto, tenor, or baritone clef. In modern scores, the alto and tenor clefs (shaded in the example) are most common, but you may come across the others in older

editions. To read these clefs well, practice counting the lines and spaces in thirds (as in the example), then memorize them.

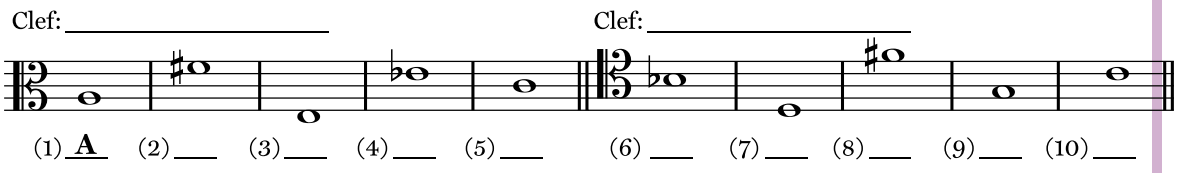
EXAMPLE 1.7: Reading pitches in C-clefs


Soprano clef
C E G B D D F A C
Mezzo-soprano clef
A C E G B B D F A
Alto clef
F A C E G G B D F
Tenor clef
D F A C E E G B D
Baritone clef
B D F A C C E G B

Try it #6

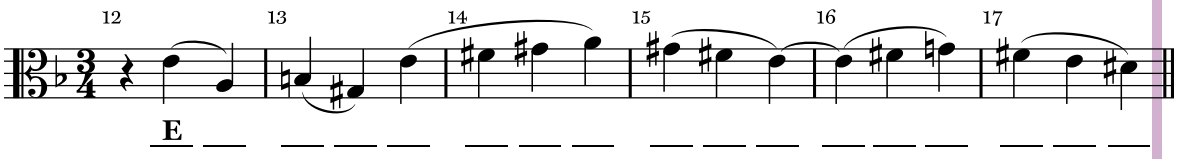
A. First identify the clef, then write each letter name in the blanks below.

Show answers

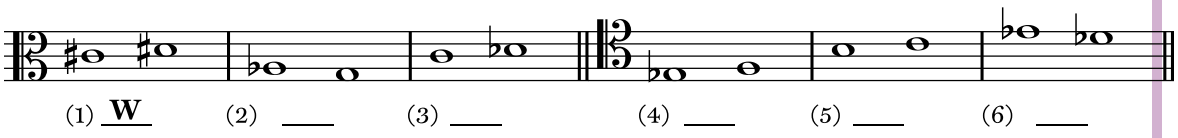


B. Write each letter name in the blanks below.
Mozart, String Quartet in D Minor, mvt. 3, mm. 12–17 (viola part)

Show answers



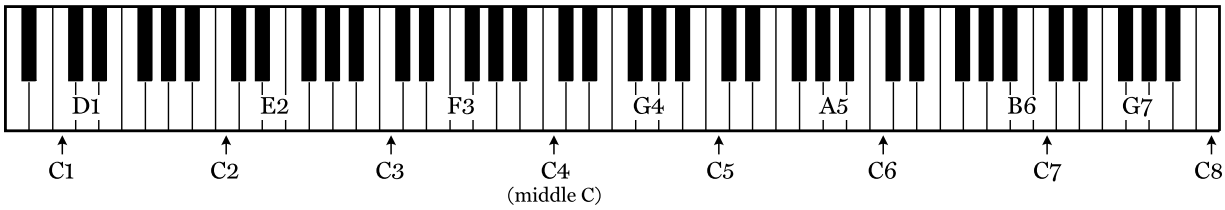
C. Identify whether each pair of pitches spans a whole step (W), half step (H), or neither (N).

Show answers

Musicians read different clefs because each one corresponds to the range of pitches needed for a particular instrument or voice type. The higher instruments, like the flute and violin, read treble clef. Lower instruments, like the cello and bass, generally read bass clef, while violas use the alto clef. Pianists read both bass and treble clefs, and bassoonists and cellists read both bass and tenor clefs. In choral scores, the tenor's voice part is often notated using a treble clef with a small "8" beneath it, known as the **choral tenor clef**. These pitches are read down an octave.

Naming Registers

When you name pitches, it helps to specify their precise octave placement. There are several systems for doing this: we will use the numeric system shown on the keyboard in Figure 1.7. The lowest C on the piano is C1 and the highest is C8; middle C is C4. The number for a particular octave includes all the pitches from C up to the following B, so the B above C4 is B4, and the B below C4 is B3. The three notes below the C1 on the piano are A0, B♭0, and B0.

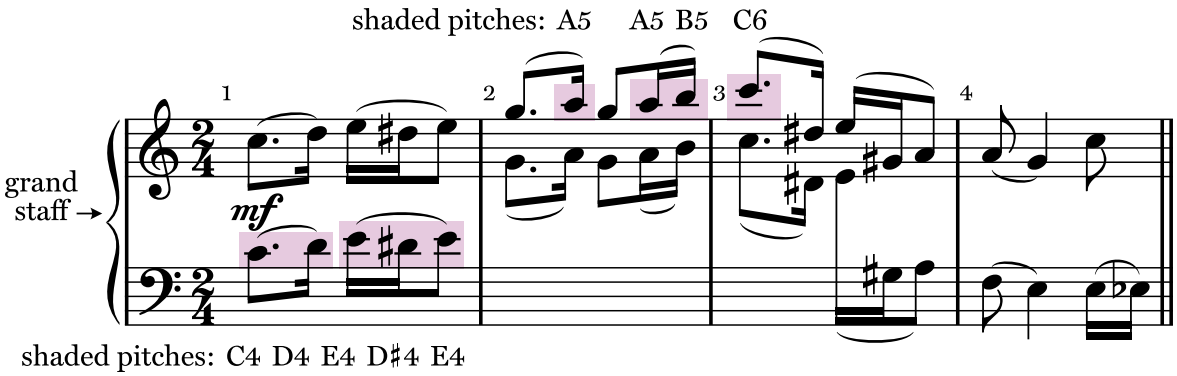
FIGURE 1.7: Piano keyboard with octave designations



Ledger Lines

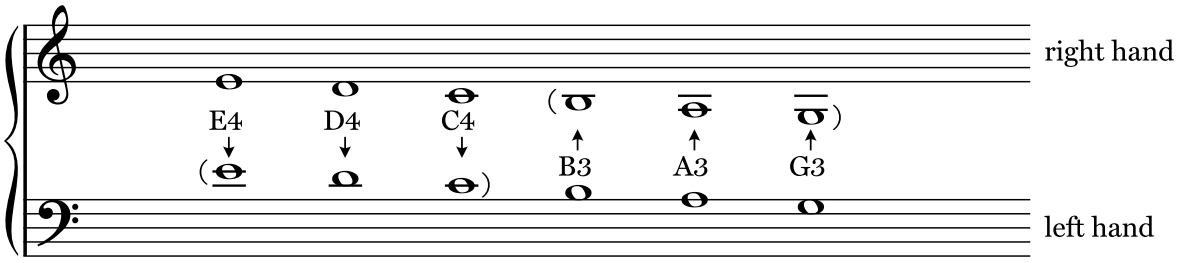
Listen to Example 1.8, the beginning of Joplin's rag "Solace." Like most piano music, this work is notated on a **grand staff**–two staves, one in treble clef and one in bass clef, connected by a curly brace. The shaded pitches are written with ledger lines, which may be written above, below, or between staves. Read ledger lines just like other staff lines, by counting forward or backward from pitches on the staff.

EXAMPLE 1.8: Joplin, "Solace," mm. 1–4



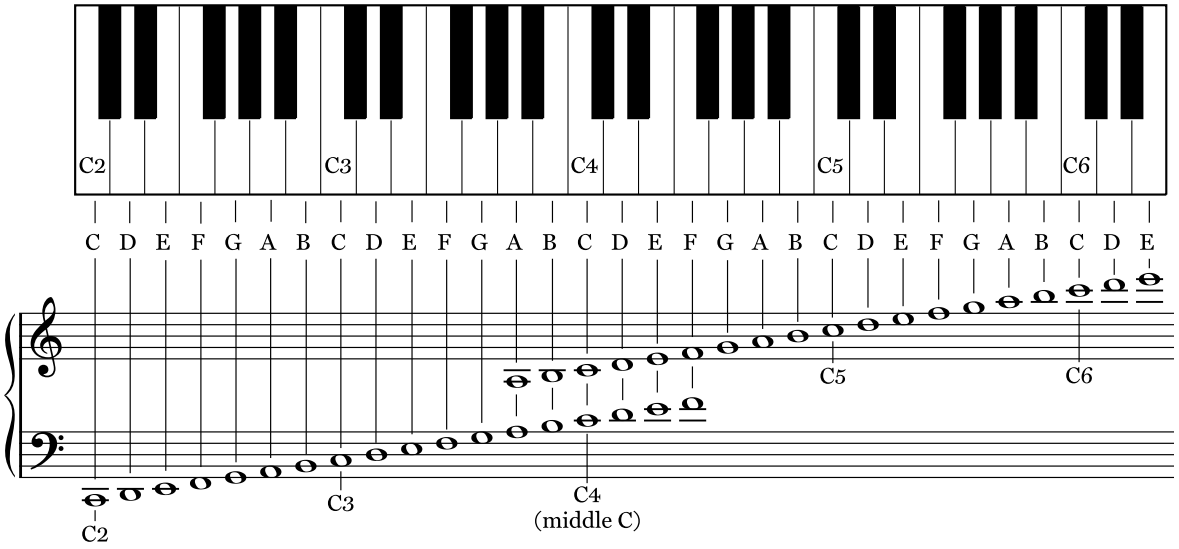
Pitches near middle C may be written between the two staves of the grand staff, as in the Joplin rag and Example 1.9 (arrows point to equivalent ledger-line pitches). In keyboard music, the choice of clef usually indicates which hand should play the note: bass clef for the left hand and treble clef for the right.

EXAMPLE 1.9: Ledger lines between staves on the grand staff



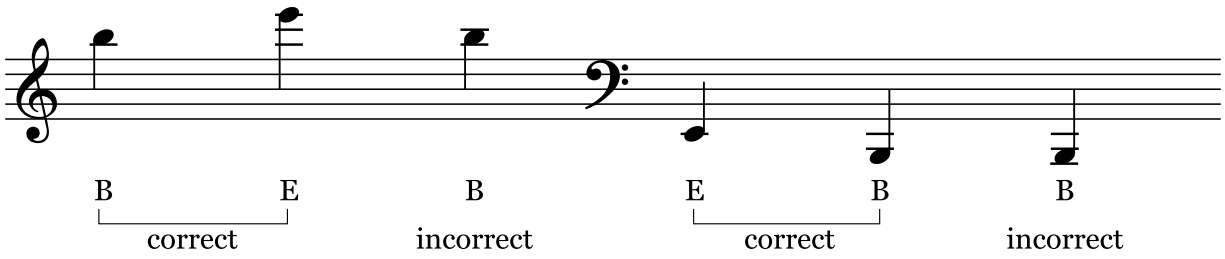
Example 1.10 shows pitches on a grand staff, extending over four octaves (some with ledger lines), and their positions on a keyboard.

EXAMPLE 1.10: Pitches on a grand staff and keyboard



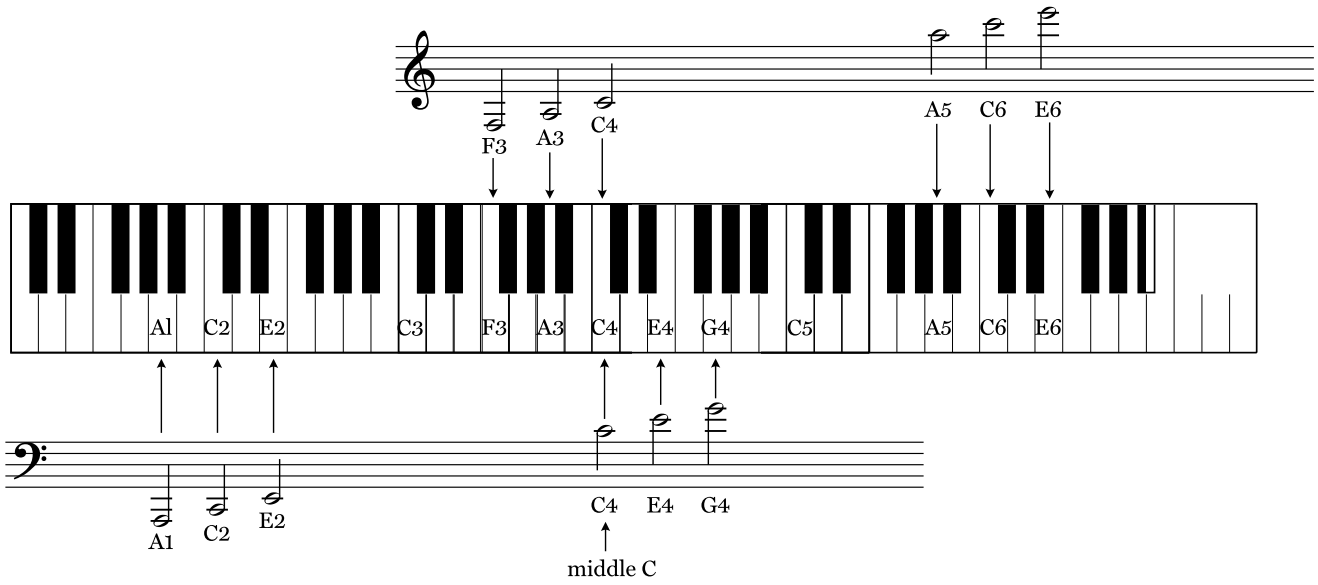
Notes higher than the staff have ledger lines drawn through them or below them, but never above them; notes below the staff have ledger lines through them or above them, but never below. Draw ledger lines the same distance apart as staff lines, as in Example 1.11.

EXAMPLE 1.11: Correct and incorrect ledger lines



Memorize landmark pitches above and below the staves to help you read ledger lines quickly—as in Example 1.12, which gives the first three lines above and below each staff.

EXAMPLE 1.12: Landmark ledger-line pitches

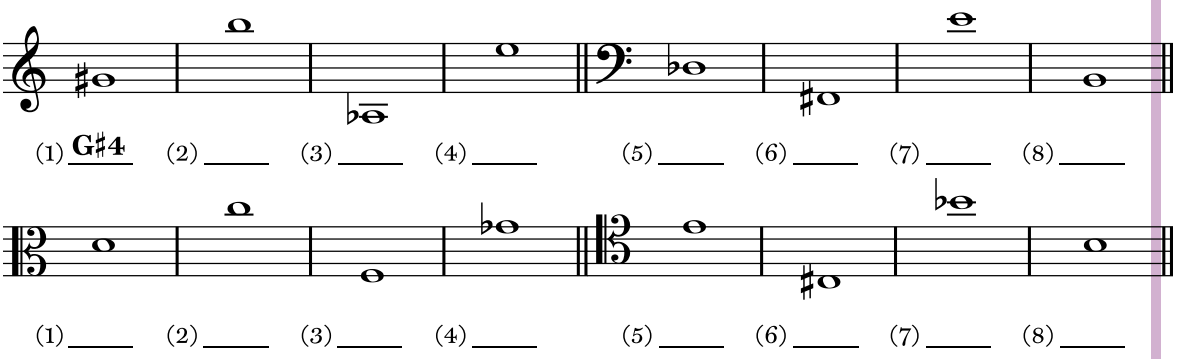


An alternative to ledger lines is the **ottava sign**. An "8va" above the staff means to play an octave higher (the "8v" stands for "octave," and the "a" stands for *alta*, Italian for "above"). An "8vb" beneath the staff means to play an octave lower (the "b" stands for *bassa*, or "below").

Try it #7

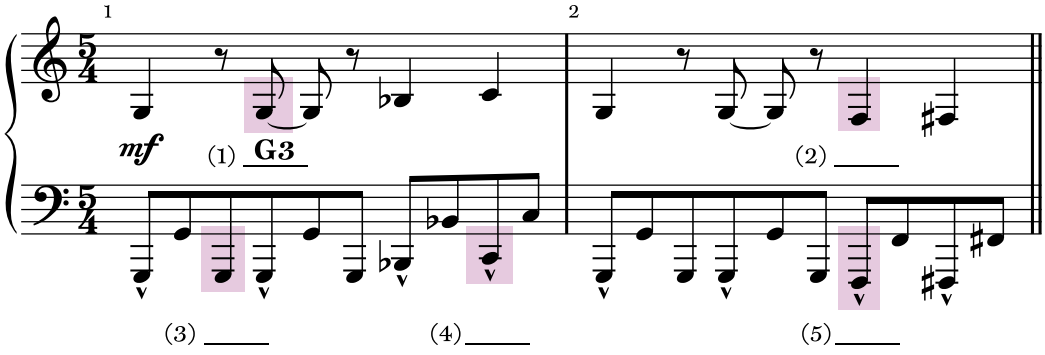
A. Write the name and octave number of each pitch in the blank. Show

answers



B. Write the name and octave number of each shaded pitch in the blank.
Lalo Schifrin, theme from *Mission Impossible*, mm. 1–2

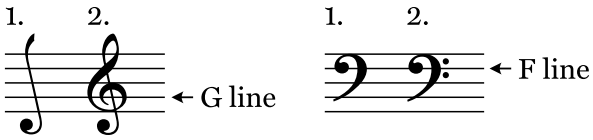
Show answers



Writing Pitches on a Score

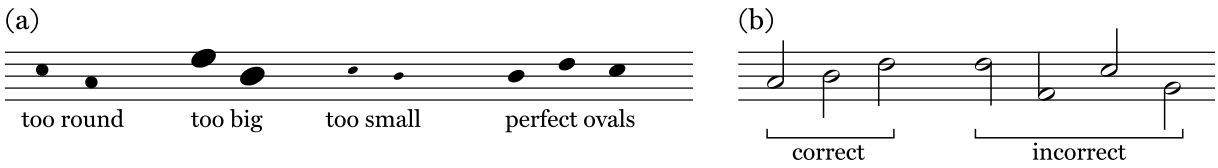
Though software for music notation is widely available, it is important to know how to notate music by hand. Draw a treble clef with a single continuous curved line, or in two strokes (Example 1.13): (1) draw a wavy line from top to bottom, like an elongated S; then (2) draw a second line that joins at the top and curves around it (ending on G4). To draw a bass clef, follow the diagram in the example, and make sure that the two dots straddle the F line.

EXAMPLE 1.13: Drawing treble and bass clefs



When you draw note heads, make them oval-shaped rather than round, and not so large that it is hard to tell whether they sit on a line or space (Example 1.14a). Most notes are attached to thin vertical lines, called **stems**, that extend above or below the note head (♩𝅗𝅥). If a note lies below the middle line of the staff, its stem goes up, on the right side of the note head; if a note lies above the middle line, its stem goes down, on the left side (part b). A stem attached to a note *on* the middle line generally goes down (more about this in Chapter 2). The length of a stem from top to bottom spans about an octave.

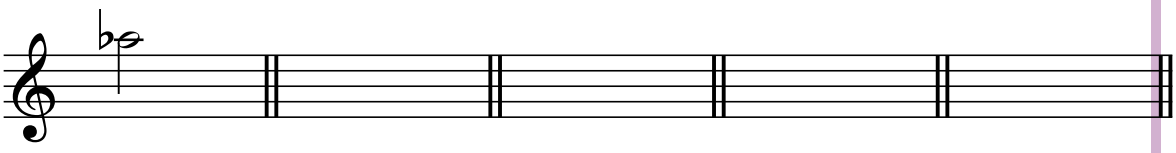
EXAMPLE 1.14: Notation guidelines



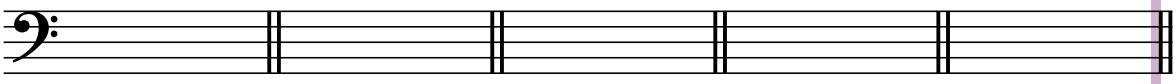
Try it #8

Write each of the specified notes in the correct octave, using hollow note heads and correctly notated stems and ledger lines. Place accidentals before (to the left of) the note head.

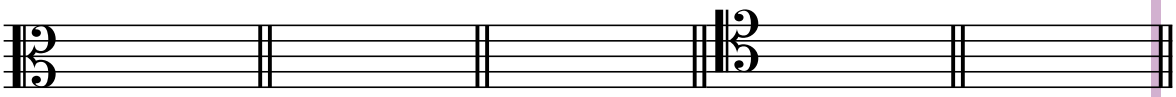
Show answers



(1) A♭5 (2) F♯3 (3) B4 (4) D♭6 (5) G♯3



(6) D♯4 (7) C♯2 (8) F♯2 (9) E4 (10) B3

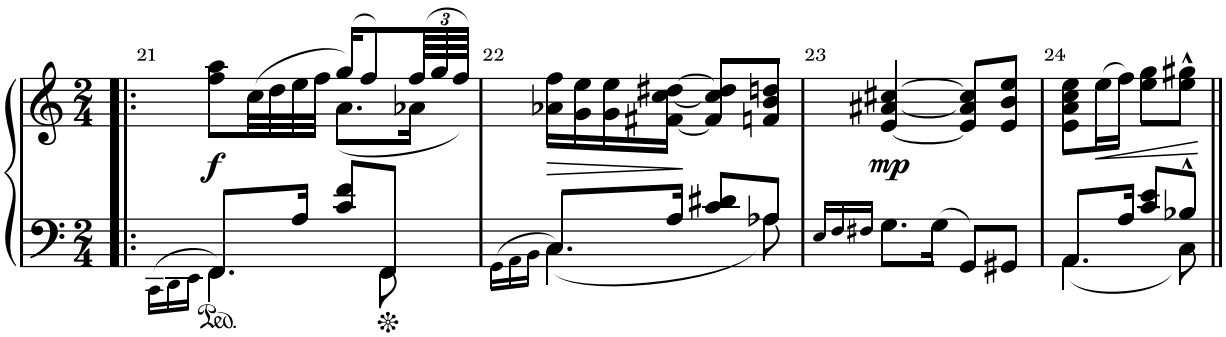


(11) G4 (12) B3 (13) B4 (14) C♯3 (15) A♭4

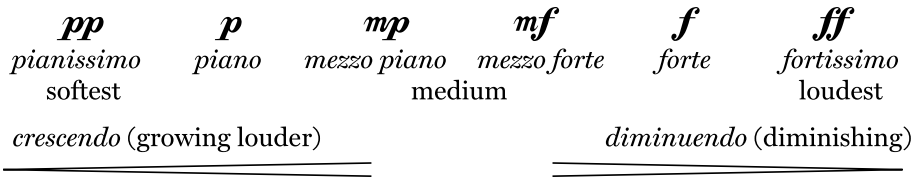
Dynamic Markings

Now listen to another excerpt from Joplin's "Solace," shown in Example 1.15. This passage begins with a full sound, marked with a large *f* in the score. This is a **dynamic indication**, which tells performers how soft or loud to play. Such markings also help musicians make decisions about the character or mood of a piece.

EXAMPLE 1.15: Joplin, "Solace," mm. 21–24



The *f* stands for *forte*, a loud dynamic marking; *piano* (abbreviated *p*) is a soft one. Other frequently encountered markings are *mp* (for *mezzo piano*, "half as soft") and *mf* (for *mezzo forte*, "half as loud"). Figure 1.8 shows a typical range of dynamic markings. The indication that tells you to get louder is *crescendo* (<), while *decrescendo* or *diminuendo* (>) means to grow softer. In the Joplin example, a *diminuendo* (m. 22) extends from a *forte* to *mezzo piano*. When performing, pay careful attention to the dynamic markings. They will contribute greatly to shaping a musical and sensitive performance.

FIGURE 1.8: Dynamic indications

Style Periods

In this book, we will often refer to the following style periods; general dates and a few significant composers are provided for each.

- **Early music**
  - **Medieval (c. 500–1400):** Gregorian chant, Hildegard von Bingen, Guido d'Arezzo
  - **Renaissance (c. 1400–1600):** Tomás Luis de Victoria, William Byrd, Giovanni Pierluigi da Palestrina
- **Common practice**
  - **Baroque (c. 1600–1750):** Elisabeth-Claude Jacquet de la Guerre, Arcangelo Corelli, Henry Purcell, Johann Sebastian Bach, George Frideric Handel
  - **Classical (c. 1730–1820):** Joseph Haydn, Wolfgang Amadeus Mozart, Ludwig van Beethoven
  - **Romantic (c. 1815–1910):** Franz Schubert, Robert and Clara Schumann, Frédéric Chopin, Fanny Mendelssohn Hensel, Richard Wagner, Johannes Brahms, Gabriel Fauré
- **Modern and contemporary**
  - **Early twentieth century and modernist (c. 1890–1945):** Scott Joplin, Claude Debussy, Maurice Ravel, Béla Bártok, Arnold Schoenberg, Anton Webern, Igor Stravinsky
  - **Post–World War II and late twentieth century (c. 1945–2000):** Pierre Boulez, Luciano Berio, György Ligeti, John Cage
  - **Twenty-first century: Steve Reich, Arvo Pärt, John Corigliano,** Ellen Taaffe Zwilich, **Chen Yi**

Did You Know?

Scott Joplin was born into a musical family: his father, a former slave, played violin, and his mother played the banjo. One of Joplin's most famous compositions, "Maple Leaf Rag" (published in 1899), earned him one penny for every sheet-music copy sold, an income that helped support him for the rest of his life. Although his opera *Treemonisha* (composed in 1911) won an award for being the "most American opera" ever written, Joplin never saw it fully staged. His music was played in bars, dance halls, and other popular gathering places from the 1890s to the 1910s—and became popular once again in the 1970s after it was featured in the movie *The Sting* (1973), with Paul Newman and Robert Redford. Joplin's rags have remained among the best-known American music of the early twentieth century.

TERMS YOU SHOULD KNOW

- accidental
  - flat
  - sharp
  - natural
  - double flat
  - double sharp
- clef
  - treble clef
  - bass clef
  - C-clef
  - alto clef
  - tenor clef
- counting in thirds
- dynamic marking
- enharmonic pitch
- grand staff
- half step
- interval
- ledger line
- musical alphabet
- octave
- octave equivalence
- pitch
- pitch class
- staff
- whole step

QUESTIONS FOR REVIEW

1. How do a staff and clef work together to identify pitches?
2. How do pitches and pitch classes differ?

3. What is the function of (a) C-clefs, (b) accidentals, (c) ledger lines?
4. How do the piano's white and black keys help you determine whole and half steps?
5. Which white-key pairs of notes form half steps, without the addition of accidentals?
6. Give two guidelines each for notating ledger lines, note heads, and stems.
7. How are octave numbers assigned? What is the octave number for middle C?
8. Pick a melody from the anthology or music that you are playing that includes ledger lines. Identify all its pitches and octave numbers.

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2 Simple Meters

Outline

Dividing musical time

- Beat, beat division, and meter
- Conducting patterns
- Tempo
- Rhythm and meter

Rhythmic notation for simple meters

- Rhythmic values
- Meter signatures

Counting rhythms in simple meters

- Beat subdivisions
- Stems, flags, and beaming
- Counting rests and dots
- Slurs and ties
- Metrical accents and syncopation
- Hemiola
- Anacrusis notation

Beat units other than the quarter note

Implications for performance: Metric hierarchy

Overview

We turn now to the organization of music in time. This chapter explains how beats are grouped and divided to create meter, then focuses on simple meters, whose beats divide into two parts.

Repertoire

Anonymous, Minuet in D Minor
Frédéric Chopin, Mazurka in F Minor, Op. 68, No. 4
"Greensleeves"
George Frideric Handel
    Chaconne in G Major
    "Rejoice greatly," from *Messiah*
Fanny Mendelssohn Hensel, "Neue Liebe, neues Leben" ("New Love, New Life")
Scott Joplin
    "Pine Apple Rag"
    "Solace"
John Newton, "Amazing Grace"
John Philip Sousa, "The Stars and Stripes Forever"
Tomás Luis de Victoria, "O magnum mysterium" ("O Great Mystery")
Antonio Vivaldi, "Domini Fili unigenite" ("Lord, the only-begotten Son"), from *Gloria*

Dividing Musical Time

Beat, Beat Division, and Meter

Listen to the opening of Joplin's "Pine Apple Rag" and Handel's "Rejoice greatly"—two lively works in contrasting styles. As you listen, tap your foot in time: this tap represents the work's primary pulse, or **beat**. You should also hear a secondary pulse, moving twice as fast. Tap the secondary pulse in one hand while your foot continues with the primary beat. This secondary pulse represents the **beat division**.

KEY CONCEPT Musical meters are defined by

(1) the way beats are divided, and

(2) the way beats are grouped into larger recurring units.

Beats typically divide into two or three parts. In the Joplin and Handel examples, the beat divides into twos. Now listen to the English folk tune "Greensleeves." Tap your foot along with the slow beat, as before. When you add the beat division in your hand, you'll notice that the beat divides not into twos, but into threes.

KEY CONCEPT There are two principal meter types: simple and compound. Works in **simple meters** have beats that divide into twos. Those in **compound meters** have beats that divide into threes.

There can be quite a difference in character between these two types: simple meters feel like walking or marching, while compound meters may sound lilting, like a waltz.

Try it #1

Listen to each piece below to determine the beat and its division. If the beat divides into twos, circle "simple"; if it divides into threes, circle "compound."

Show answers

(a) Joplin, "Solace" simple compound

(b) Gilmore, "When Johnny Comes Marching Home" simple compound

(c) Mozart, *Variations on "Ah, vous dirai-je Maman"* simple compound

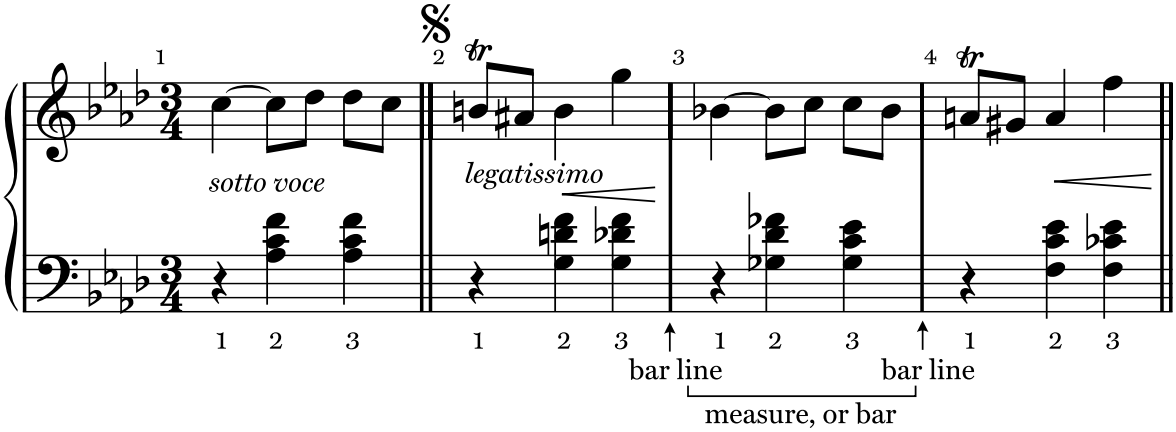
(d) Schumann, "Wilder Reiter" ("Wild Rider") simple compound

Listen now to the opening of Sousa's "Stars and Stripes Forever" and Chopin's Mazurka in F Minor. Tap the primary beat for each. In both works, the beat divides into twos: both are in simple meter. But besides dividing, primary beats also *group*—into twos, threes, or fours. As you listen to each piece, try counting "1-2, 1-2" (one number per beat); if the piece doesn't fit that pattern, try "1-2-3, 1-2-3" or "1-2-3-4, 1-2-3-4."

KEY CONCEPT When beats group into units of two, the meter type (either simple or compound) is **duple**. When they group into units of three, the meter type is **triple**; and when they group into units of four, it is **quadruple**.

As you may have heard, the meter type for the Sousa march is simple duple, and for the Chopin mazurka simple triple. In music notation, the beat groupings are indicated by **bar lines**, which separate the notes into **measures**, or **bars**. Measures are often numbered at the top, as in Example 2.1, to help you find your place in a score. Listen again to the mazurka while following the notation in the example and the counts written beneath.

EXAMPLE 2.1: Chopin, Mazurka in F Minor, mm. 1–4



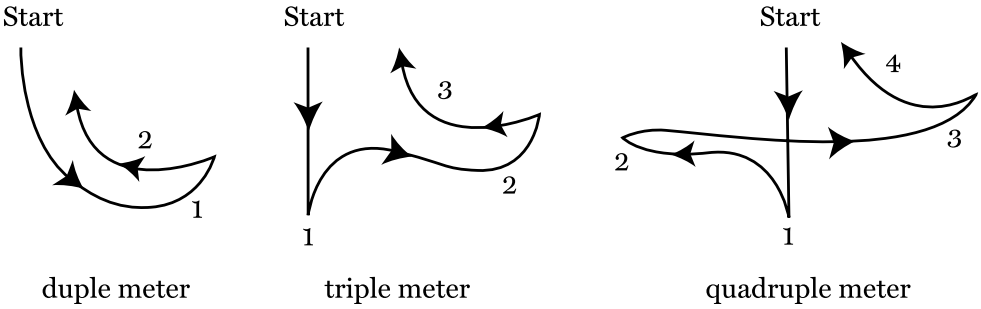
Conducting Patterns

Conductors' motions outline specific patterns for each meter to keep an ensemble playing together and to convey interpretive ideas. The basic conducting patterns for duple, triple, and quadruple meters given in Figure 2.1 are the same whether the piece is in a simple or compound meter (although the conductor may distinguish between them by subdividing the

basic pattern).

As you practice each pattern, you will feel a certain physical weight associated with the **downbeat**—the motion of the hand down on beat 1 of the pattern. You will probably feel anticipation with the **upbeat**—the upward lift of the hand for the final beat. Practice these patterns until you feel comfortable with them, and use them to help you recognize meter types by ear.

FIGURE 2.1: Conducting patterns



duple meter triple meter quadruple meter

Tempo

Conductors also use conducting patterns to establish a work's **tempo**, or speed (the plural is "tempi"), which in turn helps to convey the character or mood of a piece. The tempo is often indicated on a musical score with words in Italian or other languages. Following are the most common tempo indications in Italian.

- Slower tempi: *grave*, *largo*, *larghetto*, *adagio*
- Medium tempi: *andantino*, *andante*, *moderato*, *allegretto*
- Faster tempi: *allegro*, *vivace*, *presto*, *prestissimo*
- Increasing in tempo (gradually faster): *accelerando*
- Decreasing in tempo (gradually slower): *ritardando*
- Flexibility within tempo: *rubato*

Meter is considered *hierarchical* because you can perceive it

simultaneously at different levels, depending on the tempo. You may have trouble hearing the difference between duple and quadruple meters by ear; you may hear one measure in quadruple meter as two bars of duple. It is also possible to hear two measures of simple triple meter as one measure of compound duple. Don't worry that you are "wrong"—you're simply identifying the meter at a different level of the metric hierarchy of beat divisions, beats, and measures. Tempo can provide an important clue. If you perceive a very fast beat in three, for example, chances are you are hearing the beat divisions in compound meter.

Try it #2

Listen to the beginning of each of these simple-meter compositions. Listen for the grouping and metrical accent, then circle either "duple or quadruple" or "triple."

Show answers

(a) Bach, "O Haupt voll Blut und Wunden" duple or quadruple triple

(b) Mozart, Minuet in F Major duple or quadruple triple

(c) Mozart, Piano Sonata in C Major, mvt. 1 duple or quadruple triple

(d) Bach, Passacaglia in C Minor for Organ duple or quadruple triple

Rhythm and Meter

Rhythm and meter are two different, but related, aspects of musical time. **Rhythm** refers to the durations of pitch and silence (notes and **rests**) used in a piece. Meter provides a framework of strong and weak beats against which the rhythms are heard.

SUMMARY

Music written in a meter has

- a recurring pattern of beats,
- perceivable divisions of beats (simple or compound),
- perceivable groupings of beats (duple, triple, or quadruple).

Rhythm consists of

- durations of pitch and silence, usually heard in the context of the underlying meter.

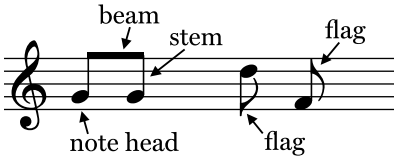
This summary applies generally to tonal music from the common-practice era, roughly 1600 through the early twentieth century. Some music is nonmetric—without meter—especially in early, non-Western, and post-1900 works.

Rhythmic Notation for Simple Meters

Rhythmic Values

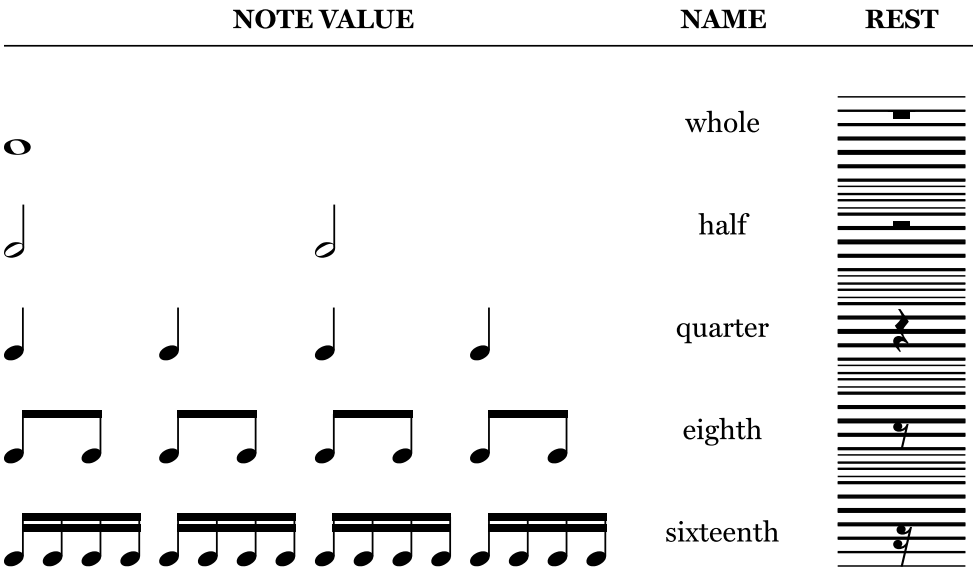
The parts of a note are labeled in Figure 2.2. The wavy line attached to the stem of a single note is a **flag**, and the horizontal line connecting two or more notes is a **beam**.

FIGURE 2.2: Parts of a note



A chart of common note values and their equivalent rests (durations of silence) in simple meters is given in Figure 2.3: a **whole note** divides into two **half notes**, a half note divides into two **quarter notes**, and so on. You can create smaller note values by adding flags or beams to the stem: **eighth notes**, for example, have one beam, **sixteenth notes** two beams (a **thirty-second note** has three flags or beams, and a **sixty-fourth note** four). Flags and beams are notational choices; the rhythms they notate sound the same. In some meters, you will see longer note values, such as the **breve** (𝅜), which lasts twice as long as a whole note, sometimes written as a double whole note (𝆺𝅥𝅮).

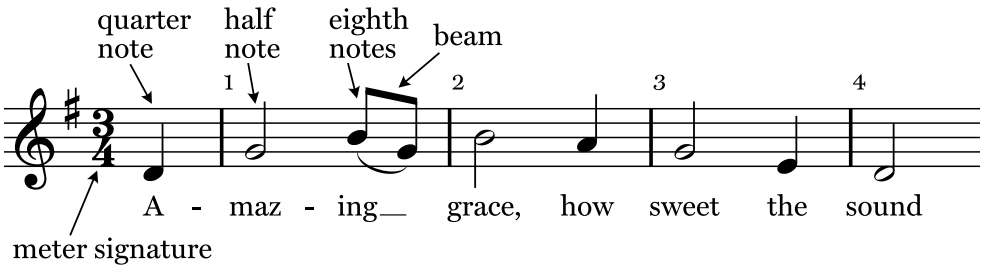
FIGURE 2.3: Note values in simple meters



Meter Signatures

A **meter signature** (or **time signature**) at the beginning of a score establishes the meter type and **beat unit** (the note value that gets one beat). In "Amazing Grace" (Example 2.2), the upper number (3) means that there are three beats in each full measure, while the lower number (4) indicates the beat unit: the quarter note gets one beat.

EXAMPLE 2.2: Newton, "Amazing Grace," mm. 1–4



KEY CONCEPT Meter signatures are written with two numbers, one above the other, as in Figure 2.4. In simple meters:

- The upper number tells how many beats are in a measure; this

number is **2**, **3**, or **4**, to represent simple duple, triple, or quadruple meter.

- The lower number indicates the beat unit (which note gets one beat): **2** (half note), **4** (quarter note), **8** (eighth note), or **16** (sixteenth note).

FIGURE 2.4: Meter signatures

(a) Quarter-note beat unit:

METER SIGNATURE	BEATS PER MEASURE	BEAT UNIT	METER TYPE
$\frac{2}{4}$	2	♩	simple duple
$\frac{3}{4}$	3	♩	simple triple
$\frac{4}{4}$	4	♩	simple quadruple

(b) Other beat units:

METER SIGNATURE	BEATS PER MEASURE	BEAT UNIT	METER TYPE
$\frac{2}{2}$	2	𝅗𝅥	simple duple
$\frac{3}{2}$	3	𝅗𝅥	simple triple
$\frac{3}{8}$	3	♪	simple triple
$\frac{4}{8}$	4	♪	simple quadruple
$\frac{4}{16}$	4	𝅘𝅥𝅯	simple quadruple

Try it #3

Name the meter type (e.g., simple duple) and beat unit for each meter signature given below.

Show answers

	METER TYPE	BEAT UNIT
(a) $\frac{3}{16}$		

(b) $\frac{4}{2}$ _____ _____

Besides numbers, you may see other symbols to represent meter signatures. For example, $\mathbf{c}$ (called "common time") represents $\frac{4}{4}$; and $\mathbf{¢}$ (called **alla breve** or "cut time"), represents $\frac{2}{2}$.

SUMMARY

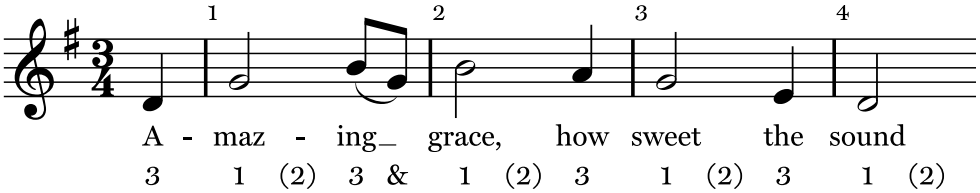
Meter signatures you are likely to see in simple meters include:

- Simple duple $\frac{2}{2}$ $\mathbf{¢}$ $\frac{2}{4}$ $\frac{2}{8}$
- Simple triple $\frac{3}{2}$ $\frac{3}{4}$ $\frac{3}{8}$ $\frac{3}{16}$
- Simple quadruple $\frac{4}{2}$ $\frac{4}{4}$ $\mathbf{c}$ $\frac{4}{8}$ $\frac{4}{16}$

Counting Rhythms in Simple Meters

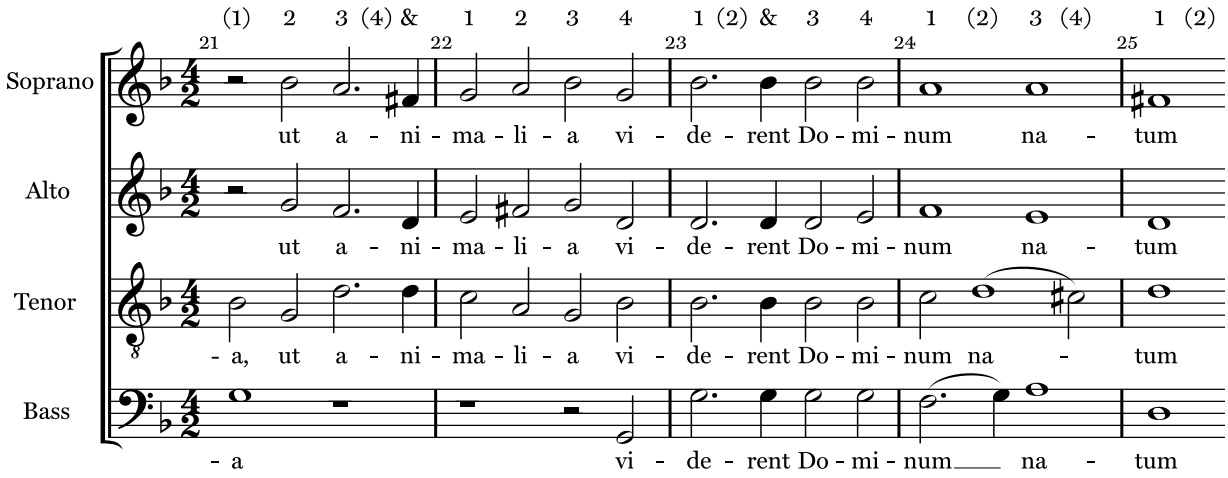
Look at Example 2.3 to see how to write counts into a score. In this simple-triple meter, each quarter note gets a count. If no new pitch sounds on a given beat (like the half note that extends into beat 2 of each measure), write the count in parentheses. The two eighth notes in measure 1–the **beat division**–are written "3 &" (or "3 +") and counted aloud as "three and"; the "and" is the **offbeat**. The quarter note D preceding the first full measure is an **anacrusis** (also called an **upbeat**, or **pickup**). Count it as the final beat (3) of an incomplete measure.

EXAMPLE 2.3: Newton, "Amazing Grace," mm. 1–4



In Example 2.4, a composition with half-note beat unit, the counts for its soprano part are written above the staff.

EXAMPLE 2.4: Victoria, "O magnum mysterium," mm. 21–25


(1) 2 3 (4) & 1 2 3 4 1 (2) & 3 4 1 (2) 3 (4) 1 (2)
21 22 23 24 25
Soprano
ut a - ni - ma - li - a vi - de - rent Do - mi - num na - tum
Alto
ut a - ni - ma - li - a vi - de - rent Do - mi - num na - tum
Tenor
- a, ut a - ni - ma - li - a vi - de - rent Do - mi - num na - tum
Bass
- a vi - de - rent Do - mi - num na - tum

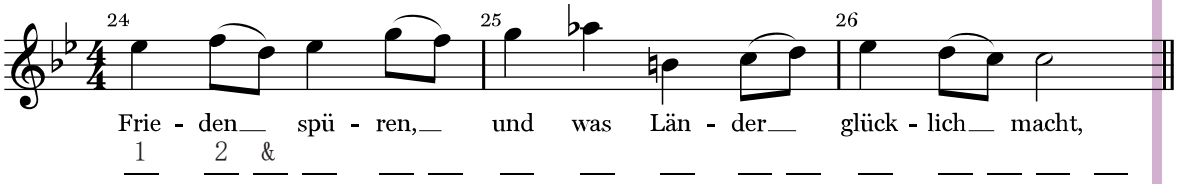
Translation: And animals saw the newborn Lord.

Try it #4

Write the counts beneath the following melodies. (The final measure of (c) is incomplete.)

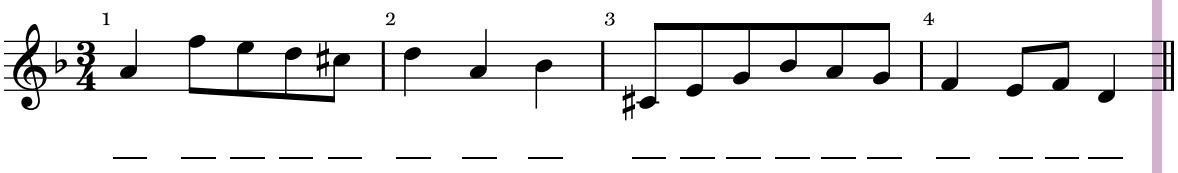
(a) Bach, "Schafe können sicher weiden," mm. 24–26

Show answers



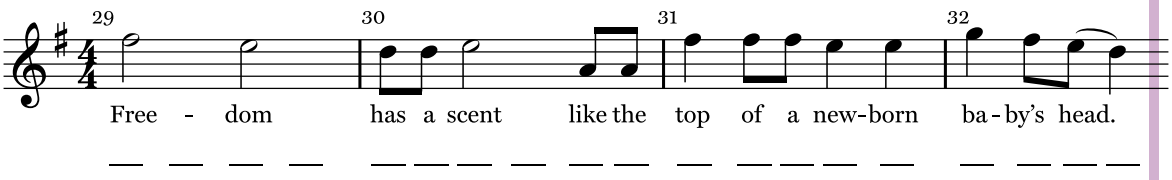
(b) Anonymous, Minuet in D Minor, mm. 1–4

Show answers



(c) Bono and U2, "Miracle Drug," mm. 29–32

Show answers

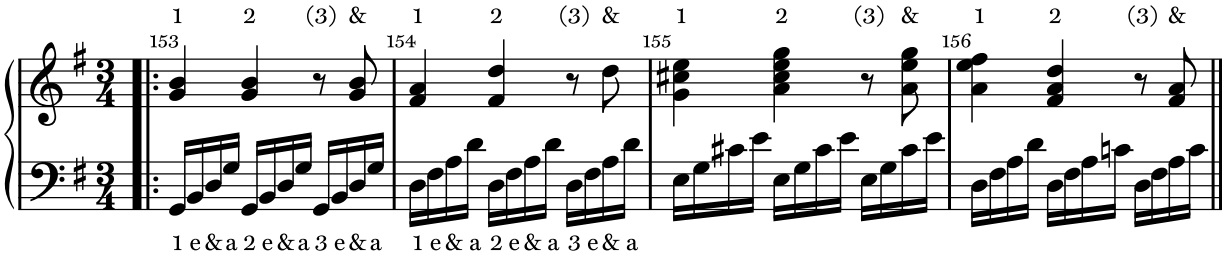


Beat Subdivisions

In Example 2.5, Variation 19 of Handel's Chaconne in G Major, the stately melody is played in quarter and eighth notes in the right hand, while the left hand accompanies with energetic groups of sixteenths. These sixteenth notes, representing the beat **subdivision**, can be counted as shown.

KEY CONCEPT In simple meters, the beat divides into twos and subdivides into fours. In music with a quarter-note beat, the beat divides into two eighths (♫) and subdivides into four sixteenths (♬), or it may divide into a combination of eighths and sixteenths (like ♫).

EXAMPLE 2.5: Handel, Chaconne in G Major, mm. 153–156

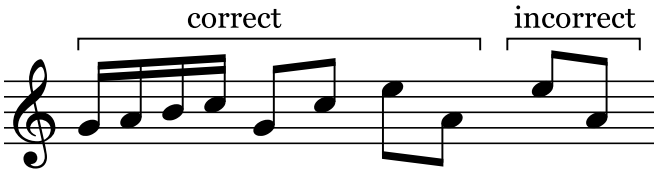


Stems, Flags, and Beaming

Your ability to sight-read, remember, and write music will be

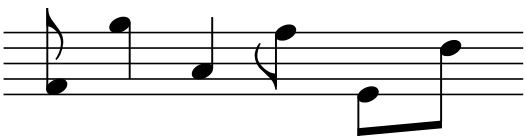
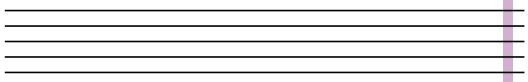
greatly enhanced by learning the typical rhythmic patterns that can occur within a beat and notating them correctly. Look, for instance, at how stems and flags are notated in Example 2.5. In the left hand, the beams group four sixteenths into a single beat, making it easy to see the beat at a glance. Flags are written on the right-hand side of the stem, whether the stem goes up or down. As mentioned in Chapter 1, the stems on notes below the middle line extend up, and those on or above it extend down. When two or more notes are beamed together (as in Figure 2.5), the stem direction corresponds with the note farthest from the middle line.

FIGURE 2.5: Correct and incorrect beaming



Try it #5

Renotate the pitches below onto the staff at the right. Correct all stems, flags, and beams.

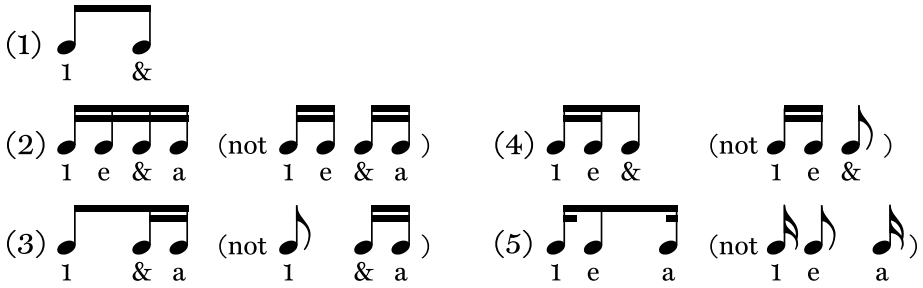
Show answers



KEY CONCEPT Rhythms should be beamed to reflect the beat unit. For example, groups of eighth and sixteenth notes

that span a quarter-note beat unit, such as , are beamed together. (Older vocal scores, though, sometimes beam to correspond with the sung syllables rather than the beat unit.)

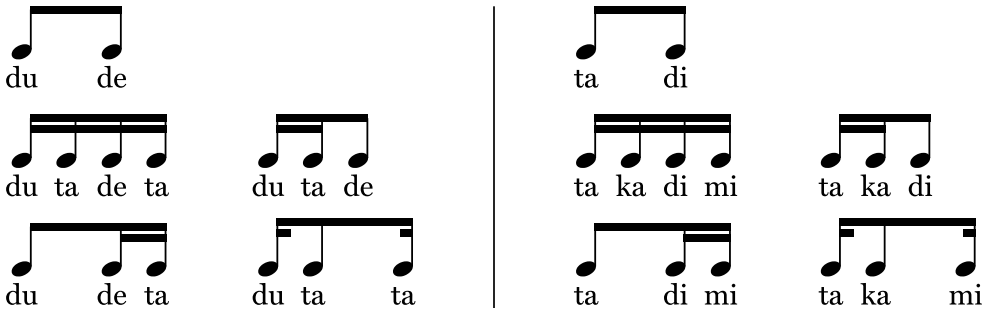
Five rhythmic patterns for the quarter-note beat unit are given in Figure 2.6: learn each pattern with its correct beaming. Familiar patterns like these can be combined and recombined in different ways, just as words can be recombined in a sentence.

FIGURE 2.6: Five common simple-meter patterns



Another Way

Although this book uses the "1 e & a" syllables to count rhythms, teachers have developed other systems as well. Syllables for the five basic patterns in Edwin Gordon's system are shown on the left, and the "ta-ka-di-mi" system on the right.

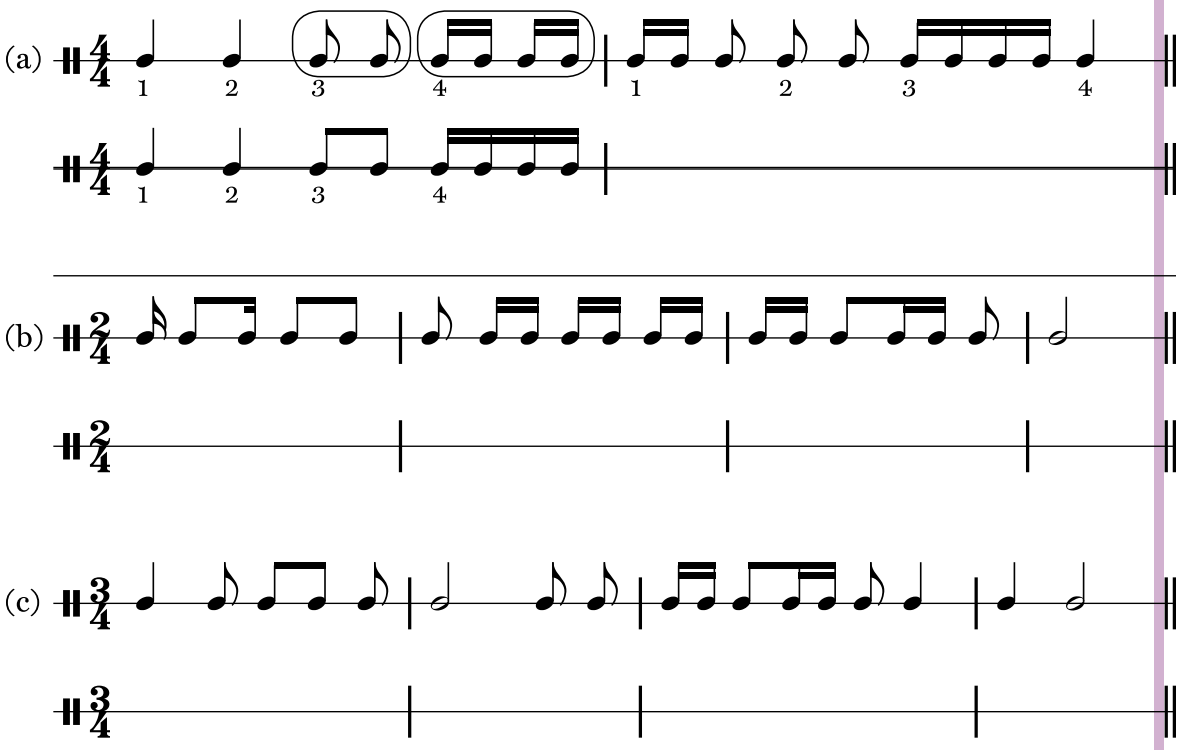


Using a counting system can help you remember and identify rhythmic patterns; choose one and use it consistently.

The single-line rhythms that follow in *Try it #6* and elsewhere in the book are notated with **rhythm clefs**, which show only rhythm, not pitches. To draw a rhythm clef, write two vertical lines preceding the meter signature.

Try it #6

Circle beats that are beamed incorrectly, then renotate the entire rhythm on the second line with correct beaming. Write the beat-level counts beneath the given line, as in (a).

Show answers

Counting Rests and Dots

Rests represent durations of silence. As you saw in Figure 2.3, each rest (e.g., eighth rest) lasts as long as the note that shares its name (eighth note). Be careful when you read and write whole and half rests, which resemble each other: the half rest sits on top of the third staff line, while the whole rest hangs from the fourth line. (You might think of the whole rest as "heavier," forced to hang from the line, while the "lighter" half rest can sit on top.)

A whole rest may be written to indicate silence that lasts a whole measure regardless of how many beats are in that measure. In music with a half-note beat unit, such as $\frac{4}{2}$, you may see a double whole rest or note (breve), which lasts four half-note beats (Figure 2.7a). Finally, some scores (particularly orchestra parts where players rest for many consecutive bars) include multiple-bar rests. The number above the rest tells the player how many bars to rest. The rest in part (b), for example, is counted **1**-2-3-4, **2**-2-3-4, **3**-2-3-4.

FIGURE 2.7:

(a) Breve: (b) Multibar rest:

When a beat begins with a rest, write the appropriate beat number in parentheses, as in Example 2.6. This helps you count the durations of silence (or accompaniment) as accurately as the pitches.

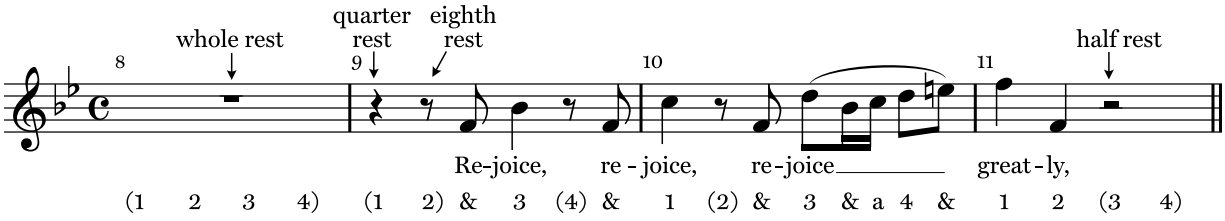
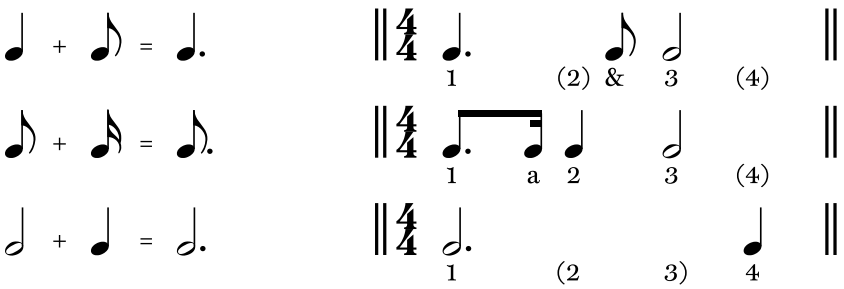
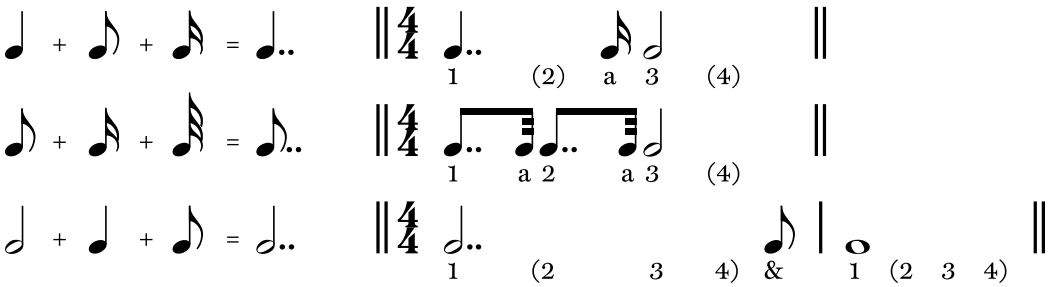
EXAMPLE 2.6: Handel, "Rejoice greatly" (vocal part), mm. 8–11

A **dot** adds to a note half its own value, as Figure 2.8a shows. That is, a dotted-quarter note equals a quarter plus an eighth, a dotted eighth equals an eighth plus a sixteenth, and so on. Dotted notes are generally paired with another note that completes a full beat or full measure. Some typical patterns are shown to the right, along with their counts in $\frac{4}{4}$. **Double dots** (relatively rare) add to a note half its value plus another quarter of its value (part b). The dot is always written on a space; if the relevant note falls on a line, the dot goes next to it on the space above, so that it can be clearly seen (part c).

FIGURE 2.8: Use of dots

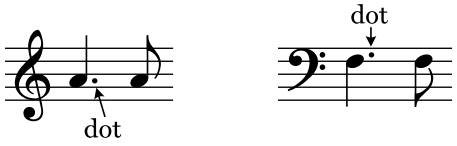
(a) Single dots



(b) Double dots



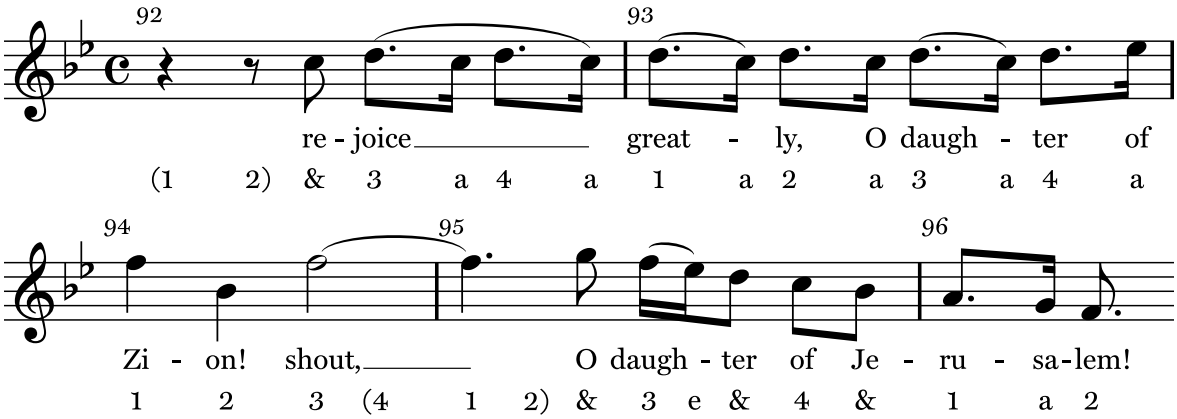
(c) Notation of dots



Slurs and Ties

Listen to the dotted passage from "Rejoice greatly" given in Example 2.7. The small arcs written above notes in measures 92–93 are **slurs**, which connect two or more different pitches. Slurs affect performance articulation–bowing or tonguing, for example–but not duration: the notes encompassed by a slur should be played smoothly, or **legato**, rather than detached. For singers, slurs identify groups of pitches sung to a single syllable.

EXAMPLE 2.7: Handel, "Rejoice greatly" (vocal part), mm. 92–96



The small arc above the F in measures 94–95, on the other hand, is a **tie**, which connects two pitches that are the same. The F in measure 95 is not played again; rather the tie adds the duration of the two note values together, so "shout" lasts three and a half beats. Counts for the beats spanned by a tie are written in parentheses; and if an accidental is applied to the first note of a tie, it continues through the tie's duration.

KEY CONCEPT Ties and dots should be notated in a way that clarifies the meter rather than obscuring it. For example, an eighth tied to a quarter would be clearer than a dotted quarter in the rhythmic context below, because it makes the placement of beat 3 explicit.

Dotted rhythms are made up of well-defined patterns that fit within a beat unit or half measure, and usually begin on the beat rather than on an offbeat. Write a tie when the held duration crosses over a bar line or beat unit, where writing a dot would obscure where the beat falls.

Metric Accents and Syncopation

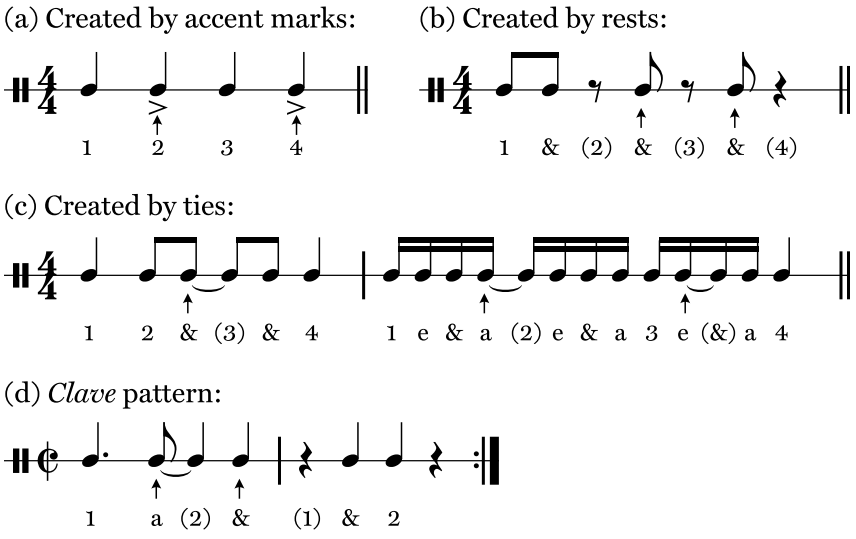
One of the most important concepts to remember from this

chapter is that meters are hierarchical: the beat division represents a low metric level, the beat unit a higher level, and the measure's downbeat an even higher level. Within each measure, the downbeat (beat 1) is the strongest. In duple meter, the beats alternate strong-weak; in triple meter, the accents are strong-weaker-weakest; and in quadruple meter, strongest-weak-strong-weak. Strong beats in a meter are heard as **metric accents**.

When an expected metric accent is displaced or moved to another beat or part of a beat—by ties, dots, rests, dynamic markings, accent marks, or the rhythm itself—the result is **syncopation** (marked by arrows in Example 2.8). Syncopations may occur at the level of the beat (accents on beat 2 or 4 rather than 1 or 3), the division (on "&"), or the subdivision (on "e" or "a"). Part (d) shows one of the syncopated *clave* patterns from Afro-Cuban music, which has been incorporated into many other popular styles. After the first note, all the notes begin on an offbeat until the last one, which falls on beat 2.

EXAMPLE 2.8: Syncopated rhythms

(a) (b) (c) (d)

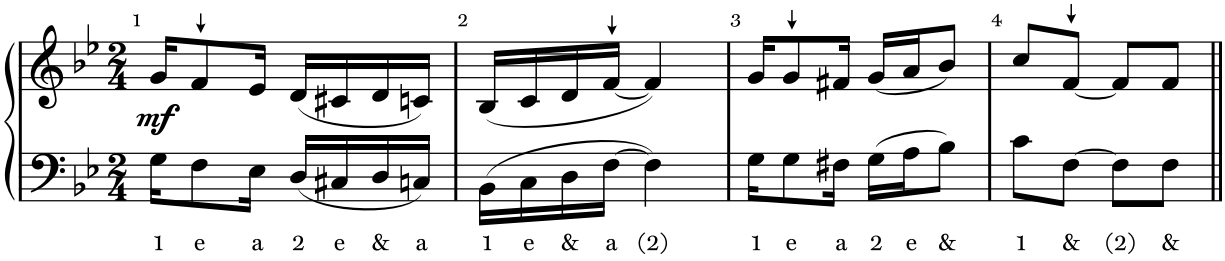


Syncopations can be found in all styles, but they are

especially prevalent in popular music, jazz, and ragtime. Within a quarter-note beat, the rhythms and are the most typical syncopation patterns, where the longest duration of the rhythm is on the "e" of "1 e & a" instead of the stronger "1" or "&."

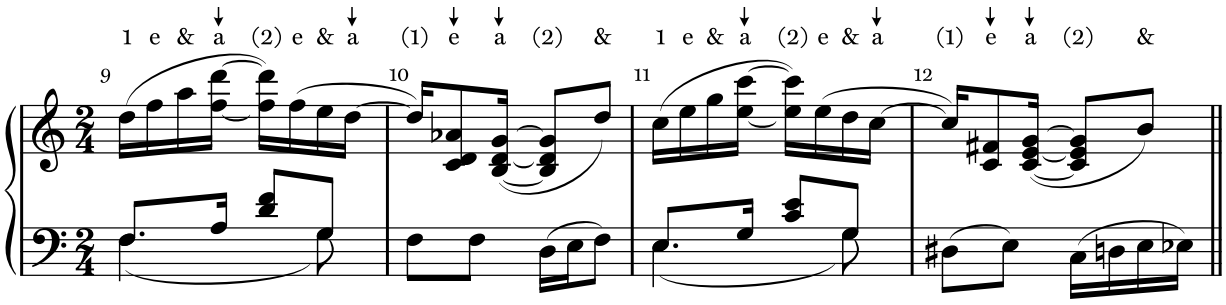
Listen to the beginning of Joplin's "Pine Apple Rag" (Example 2.9) to hear the syncopations within the beat (mm. 1 and 3) and across the beat (mm. 2 and 4), marked by arrows. Syncopations across the beat are usually notated with ties, as here: the expected emphasis on beat 2 comes earlier, on the first of the tied notes.

EXAMPLE 2.9: Joplin, "Pine Apple Rag," mm. 1–4



Joplin's "Solace" (Example 2.10) also includes many syncopations (see arrows above the counts). In fact, every measure of the excerpt shows a tie from the last sixteenth of beat 1 to the first sixteenth or eighth of beat 2, creating a syncopation mid-measure. In measures 10 and 12, syncopations are produced by ties from the last sixteenth of the previous measure. Such devices are highly effective because of the steady accompaniment pattern in the left hand: syncopations can only be perceived if there is a strong sense of the underlying beat for them to play against.

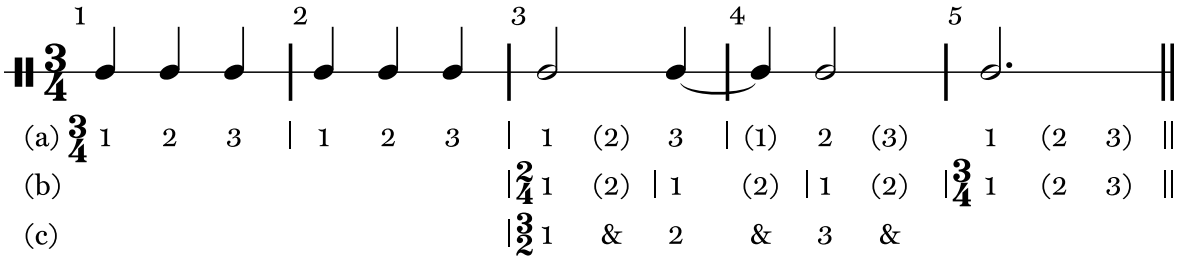
EXAMPLE 2.10: Joplin, "Solace," mm. 9–12



Hemiola

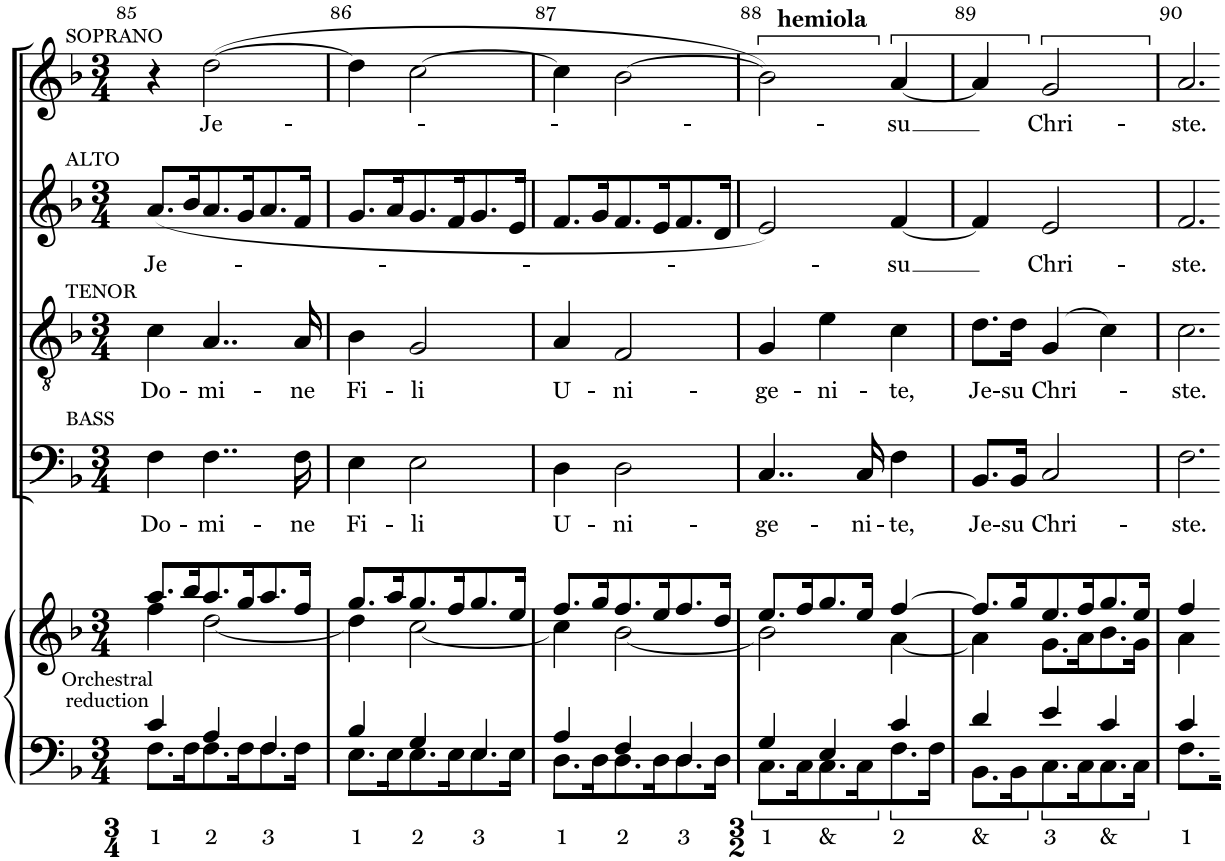
Another common metrical displacement pattern—the **hemiola**—is illustrated in Example 2.11. Read the rhythm aloud on "tah" or counting syllables while conducting—first level (a), then level (b). As you will discover, the beats in measures 3 and 4 group into twos, implying a temporary duple meter despite the overall triple meter. At level (c), you can hear a larger $\frac{3}{2}$ meter in those measures. You may hear a hemiola as a temporary change of meter, or as both meters (duple and triple) continuing at the same time, creating a type of syncopation.

EXAMPLE 2.11: Hemiola pattern in triple meter



KEY CONCEPT A hemiola, often found in Baroque music to signal an important arrival point, is a temporary duple rhythmic grouping in the context of an underlying triple meter. Typically, two measures of meter $\frac{3}{4}$ are heard as three measures of $\frac{2}{4}$. A hemiola may be articulated by rhythmic durations, accents, or melodic patterns.

Example 2.12 shows a hemiola in context. At the beginning of the excerpt, the $\frac{3}{4}$ meter is strongly articulated in the lower three parts, while soprano pitches tied across the bar line add rhythmic and harmonic interest. In measures 88–90, the upper two voices move in half-note groupings against the underlying triple meter—making a hemiola, which might be conducted in $\frac{3}{2}$ as shown. (Note the double-dot notation in the tenor and bass parts in m. 85.)

EXAMPLE 2.12: Vivaldi, "Domine Fili unigenite," mm. 85–90

85
86
87
88
hemiola
89
90
SOPRANO
Je - - - - - su Chri - ste.
ALTO
Je - - - - - su Chri - ste.
TENOR
Do - mi - ne Fi - li U - ni - ge - ni - te, Je-su Chri - ste.
BASS
Do - mi - ne Fi - li U - ni - ge - ni - te, Je-su Chri - ste.
Orchestral reduction
1 2 3 1 2 3 1 2 3 1 & 2 & 3 & 1

Translation: Lord, the only-begotten Son.

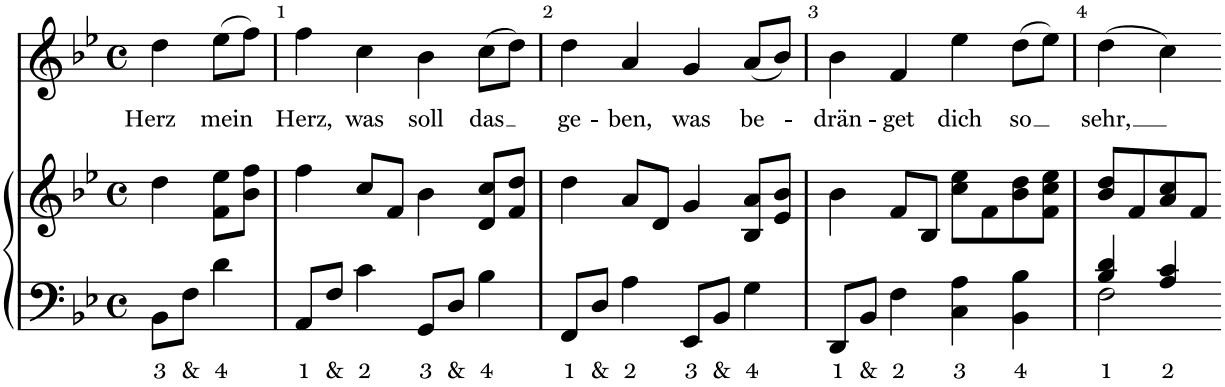
Anacrusis Notation

In music that begins with an anacrusis, the last measure is often

notated as an incomplete bar to "balance" the opening incomplete measure. For example, in $\frac{4}{4}$ meter, a quarter-note anacrusis would be balanced by a final measure of only three beats. In Hensel's "Neue Liebe, neues Leben" (Example 2.13), the two-beat anacrusis at the beginning is balanced by a final bar of only two beats, shown in part (b).

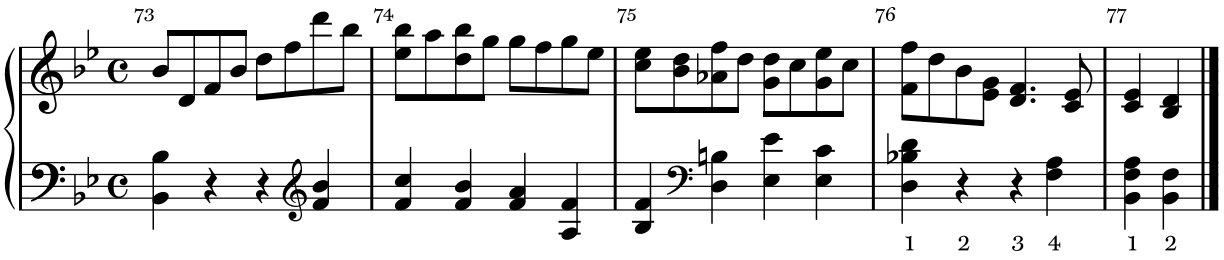
EXAMPLE 2.13: Hensel, "Neue Liebe, neues Leben"

(a) Mm. 1–4



Translation: Heart, my heart, what does this mean? What troubles you so much?

(b) Mm. 73–77 (piano postlude)



If you listen without a score, you might hear the beginning of this song as a downbeat. Why might Hensel have set this text with an upbeat? Perhaps her sensitivity to the accents and

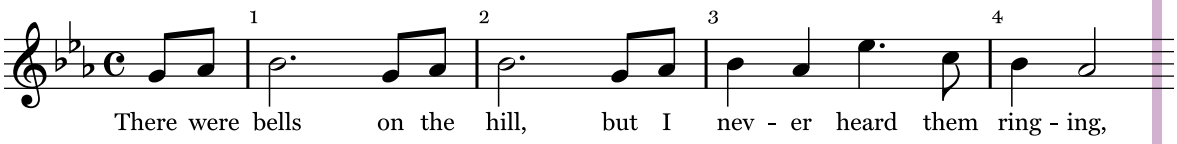
meaning of the text suggested that the second “Herz” (“heart”), on the downbeat of measure 1, was the more important word for a metric accent, as was “sehr” (“very”) at the end of the phrase.

Try it #7

In the following melodies, identify what the duration of the last measure of the piece should be to balance the anacrusis.

(a) Meredith Willson, “Till There Was You,” mm. 1–4 (melody only)

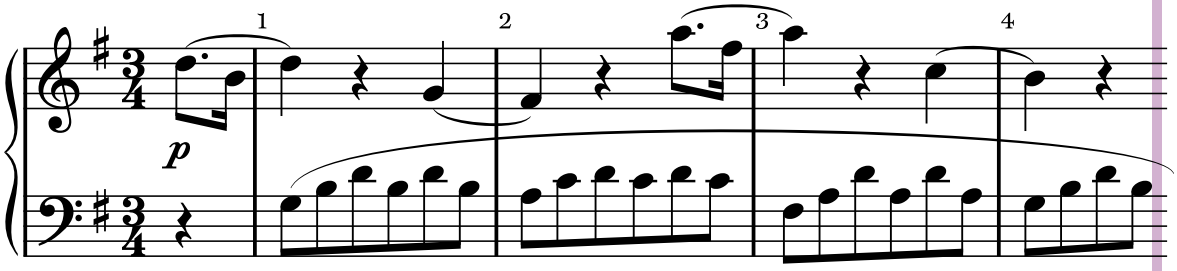
Show answers



Final measure duration: _____

(b) Mozart, Piano Sonata in G Major, mvt. 1, mm. 1–4

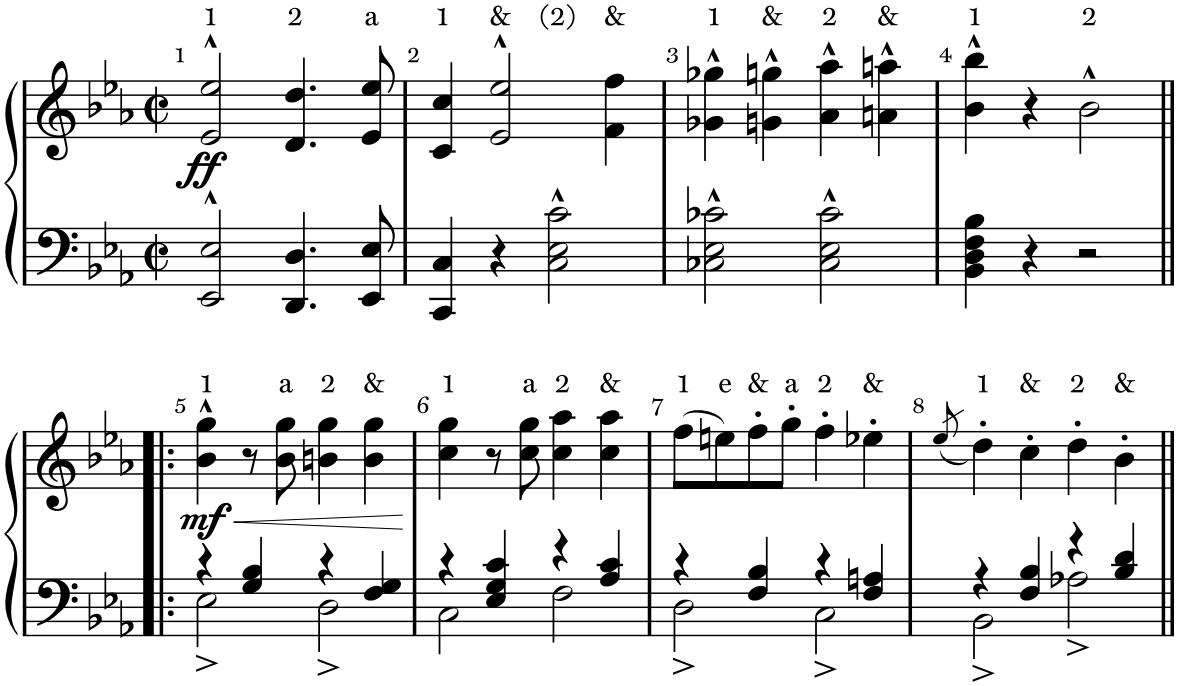
Show answers



Final measure duration: _____

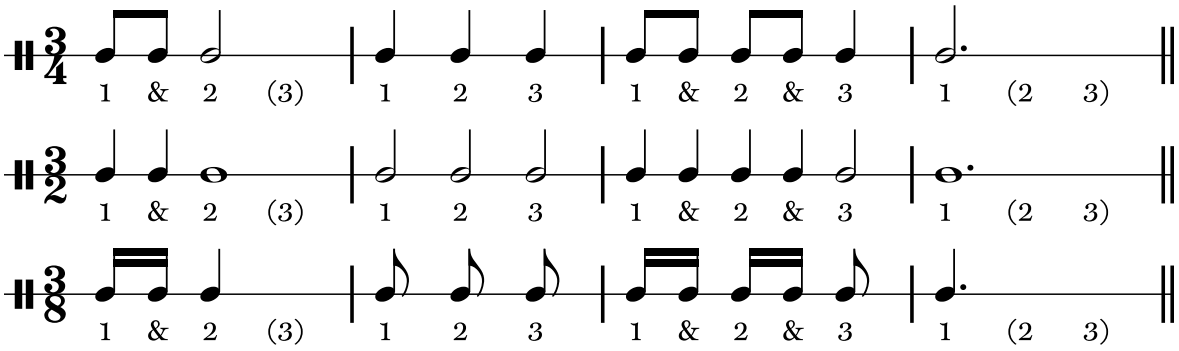
Beat Units Other Than the Quarter Note

The way you count the rhythm in any passage of music depends on its meter. Even the idea that "a whole note gets four beats" is correct only in certain meters, such as 4/4, where a ♩ gets one beat and a 𝅗𝅥 two beats; in 4/2, a ♩ gets a half beat, a 𝅗𝅥 one beat, and a 𝅝 two beats. Listen to the opening of "The Stars and Stripes Forever" while following the piano score and counts above the staff in Example 2.14. The 𝅵 (2/2) meter instructs performers to think of these measures "in two" (two beats per measure). To develop good sight-reading skills, practice reading rhythms with half-note or eighth-note beat units, as well as the more familiar quarter-note unit.

EXAMPLE 2.14: Sousa, "The Stars and Stripes Forever," mm. 1–8

There are various reasons why you might see compositions written with a particular beat unit. Sometimes the meter is meant to remind the performer of a specific compositional type or character—such as *alla breve* for marches. Sometimes rhythms are notated with a longer beat unit for ease of reading, so that quick-moving or complex rhythms need not be notated in small note values. In the Sousa march, for example, the *alla breve* signature allows the quick-moving pitches to be notated as eighths rather than sixteenths. And sometimes the reason has historical roots: to eighteenth-century musicians, a signature of $\frac{3}{16}$ would indicate a sprightly jig, while $\frac{3}{4}$ would suggest the slower tempo of a minuet.

One way to gain facility with different beat units is to write equivalent rhythms in different meters, as in Example 2.15.

EXAMPLE 2.15: Equivalent rhythms notated in different meters

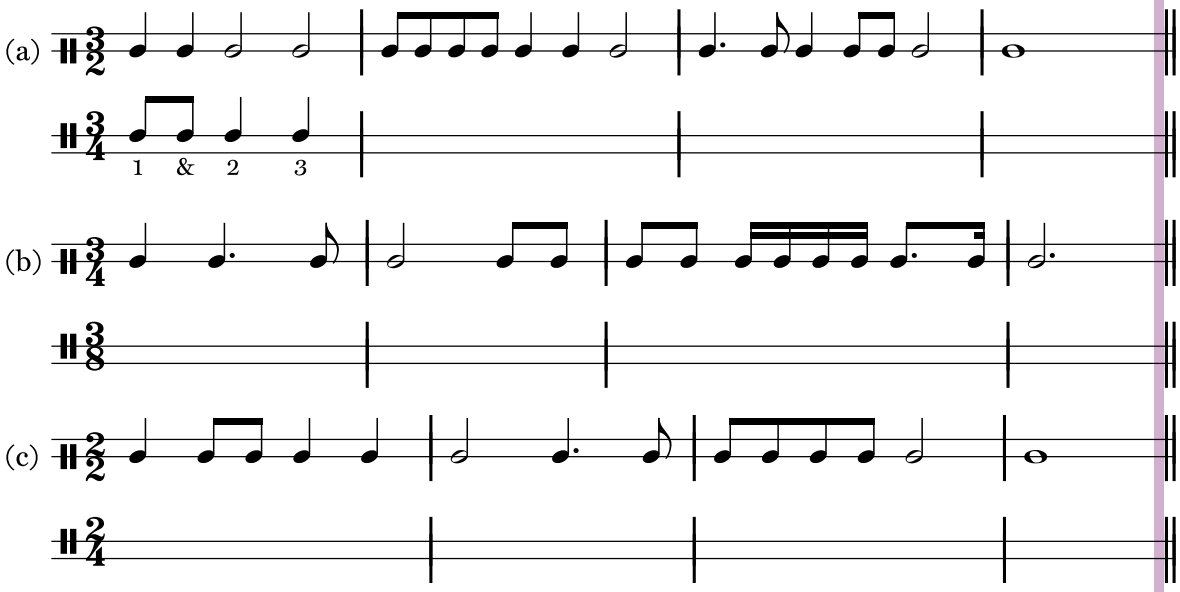


When you write in meters that are less familiar, make sure the beaming is correct for the new beat unit. For example, in $\frac{3}{8}$, write ♫ rather than 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯, in order to reflect the eighth-note beat unit. (Composers are not always consistent with this guideline, as Example 2.16 illustrates.)

Try it #8

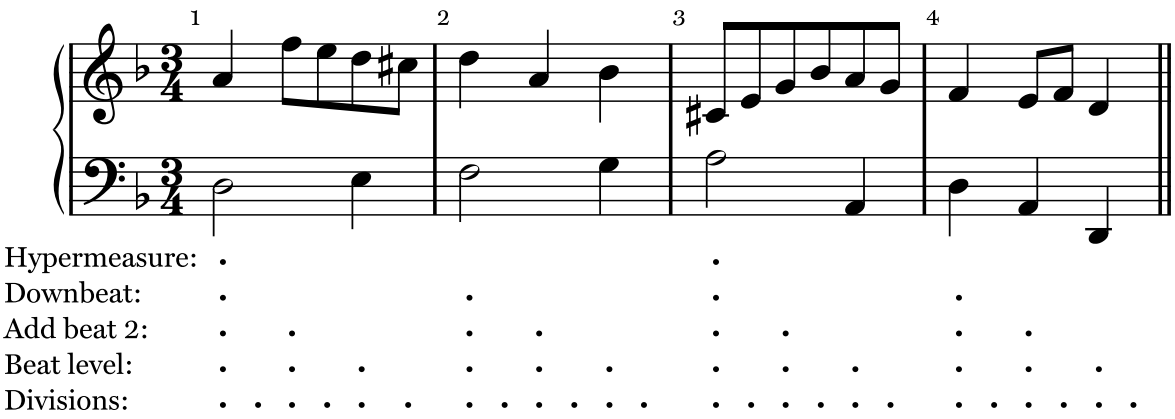
Rewrite each rhythm in the meter specified. Check that your

beaming correctly reflects the new beat unit. Write the counts (1, 2, 3, etc.) below the new rhythms.

Show answers

Implications for Performance: Metric Hierarchy

Metric hierarchy is sometimes represented with rows of dots, as in Example 2.16, where a greater number of dots aligned vertically indicates a stronger metric position. The first beat of each measure, then, no matter the meter, receives the strongest metric accent.

EXAMPLE 2.16: Anonymous, Minuet in D Minor, mm. 1–4



At an even higher level of the hierarchy, measures themselves group together in what's called "hypermeter": measures 1 and 3 are heard as metrically stronger than measures 2 and 4. This hypermetric grouping of measures is also illustrated in Example 2.16 by the vertical columns of dots; in performance, think of strong and weak measures, just as you might think of strong and weak beats. Measure 4 of the hypermeter, then (which often coincides with the end of a phrase), will be a metrically weak resting point. Carefully studying a work's metric and harmonic organization can help you determine the relative importance of each beat and pitch, and thus shape an effective performance.

You may find it helpful sometimes to think “one to the bar” to create a large-scale hypermetric alternation between strong and weak measures. This can result in a performance with broader sweep, one that is not bogged down by rhythmic detail.

Did You Know?

Baroque musicians sometimes moved their hands down and up to conduct performances, but their patterns were somewhat different from those seen today. German composer and theorist Johann Mattheson (1681–1764), a contemporary of J. S. Bach, describes in one treatise the motions associated with duple and triple meters: both meters are based on a downward and upward motion, but in triple meters the up-stroke lasts twice as long as the down-stroke. Because the hand motion in triple meters was uneven, they were called “uneven” meters; duple meters were referred to as “even.”

During this time, ensemble music was led by one of the players, usually the harpsichordist or organist, who signaled the first downbeat, then played with the ensemble. Sometimes opera or large-ensemble conductors indicated the downbeat by banging a large baton or staff on the floor. This proved hazardous in at least one case: Jean-Baptiste Lully, a ballet and opera composer at the French court of Louis XIV until 1687, died from an infection in his foot after energetically striking it with the conducting baton during a performance.

TERMS YOU SHOULD KNOW

alla breve
anacrusis
bar line
beam
beat
common time
cut time
dot
downbeat
flag
hemiola
hypermeter
measure
meter
- simple
- compound
- simple duple
- simple quadruple
- simple triple

meter signature
metric accent
note head
rest
rhythm
rhythmic value
- eighth note
- half note
- quarter note
- sixteenth note
- whole note

slur
stem
syncopation
tempo
tie
time signature
upbeat

QUESTIONS FOR REVIEW

1. What is the difference between (a) simple and compound meters, (b) rhythm and meter, (c) beat division and subdivision, (d) a flag and a beam, (e) a tie and a slur, (f) a syncopation and a hemiola?
2. What do the two numbers in a simple meter signature represent?
3. Provide two appropriate meter signatures each for a simple duple, simple triple, and a simple quadruple piece. Write three measures of rhythm in each meter, using rhythm clefs.
4. What are the notation rules for (a) stem direction, (b) beaming beat divisions and subdivisions, (c) upbeats?
5. How are syncopations created? Write two syncopated rhythmic patterns.
6. Find a piece of music from the anthology in each of the following meters: simple duple, simple triple, simple quadruple. Choose at least one with an eighth- or half-note beat unit, and practice counting its rhythm while conducting the meter.
7. Choose a short passage from your repertoire. Try to perform it with equal stress on each beat. Then mark the

strong and weak beats, and perform again.

Know It? Show It!

Focus by working through the tutorials.

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3 Pitch Collections, Scales, and Major Keys

Outline

Chromatic and diatonic collections

Scales: Ordered pitch-class collections
- Scale degrees
- Spelling major scales
- Spelling chromatic scales

Major keys
- Key signatures
- The circle of fifths
- Identifying a key from a key signature
- Writing key signatures
- Identifying the key of a piece
- Scale-degree names

The major pentatonic scale

Implications for performance

Overview

The concept of key is fundamental to Western music. In this chapter, we learn about keys by notating and playing major scales.

The major key signatures and scale-degree names will serve as foundations for the study of harmony.

Repertoire

Johann Sebastian Bach
- Invention in D Minor
- Invention in F Major

Wolfgang Amadeus Mozart, Piano Sonata in C Major, K. 545, mvt. 1

"My Country, 'Tis of Thee"

John Newton, "Amazing Grace"

Dolly Parton, "I Will Always Love You"

Henry Purcell, "When I am laid in earth," from *Dido and Aeneas*

Robert Schumann, "Trällerliedchen" ("Humming Song"), from *Album for the Young*, Op. 68, No. 3

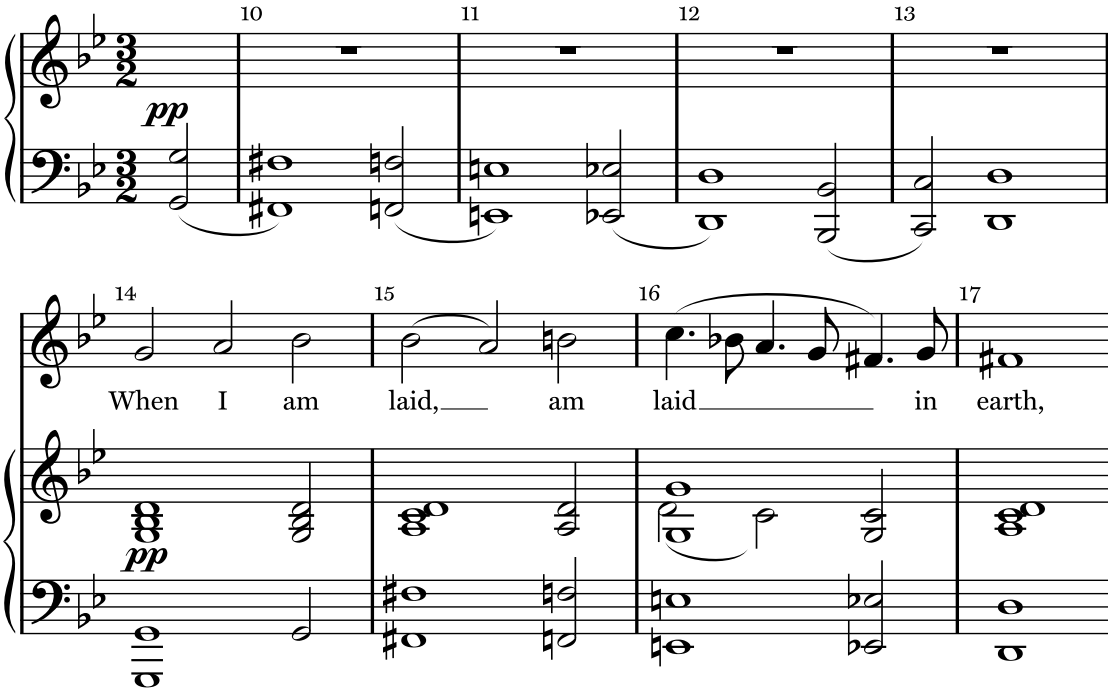
"Simple Gifts"

John Philip Sousa, "The Stars and Stripes Forever"

Chromatic and Diatonic Collections

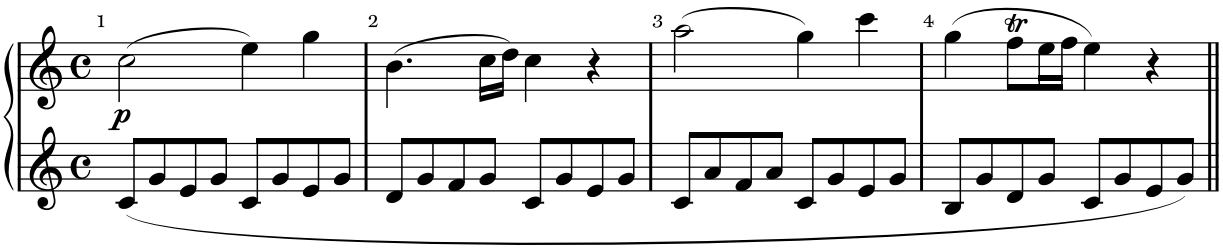
Listen to excerpts from two compositions written almost exactly 100 years apart: Purcell's *Dido and Aeneas* (1689, Example 3.1) and Mozart's Piano Sonata in C Major (1788, Example 3.2). Below the examples, write the letter names of the pitch classes in each excerpt, writing each letter name only once, in any order. When finished, you will have written a **pitch-class collection** for each excerpt—that is, the group of pitch classes found in the music, with no particular order and no duplications.

EXAMPLE 3.1: Purcell, "When I am laid in earth," mm. 10–17



Pitch-class collection: **G** _____

EXAMPLE 3.2: Mozart, Piano Sonata in C Major, mvt. 1, mm. 1–4



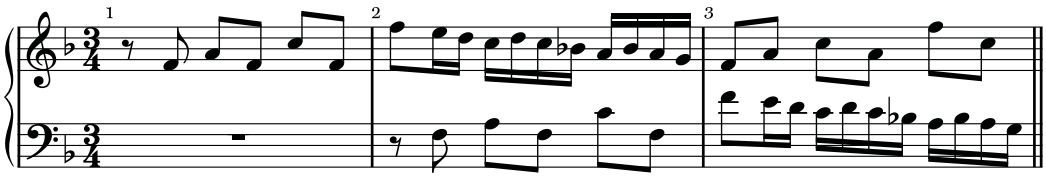
Pitch-class collection: **C**

The Purcell passage includes ten of the twelve possible pitch classes; two more and it would constitute a complete **chromatic** collection. (The word "chromatic" comes from the Greek *chroma*, meaning "color"; chromatic collections contain one of each possible pitch-class "color.") In contrast, the Mozart excerpt features only seven different pitch classes; these form a **diatonic** collection—seven different letter names in a particular arrangement. Because no ordering guidelines were given, you could have listed C D E F G A B, or C E G B D F A, or any other order. A diatonic collection is a subset of the chromatic collection.

Try it #1

Write the pitch-class collection for the passage shown below, and identify its collection type.

Bach, Invention in F Major, mm. 1–3

Show answers

Pitch-class collection: **F**

Circle one: chromatic collection diatonic collection

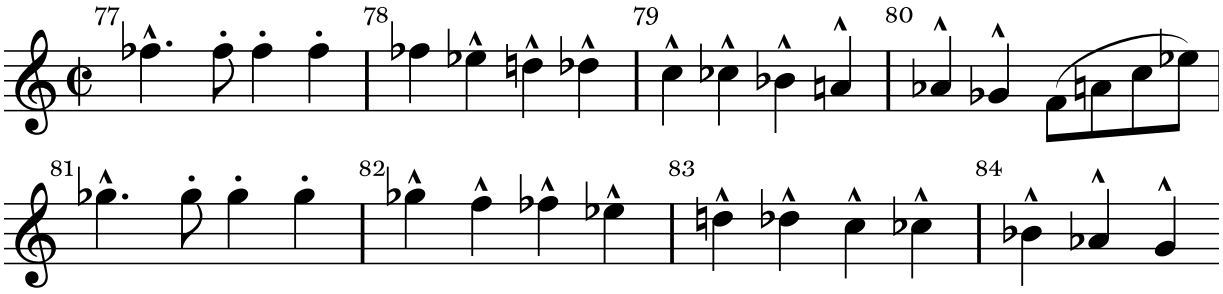
Scales: Ordered Pitch-Class Collections

Listen again to the opening of the Mozart sonata (Example 3.2), and sing the pitch that seems to be more stable than the rest. This pitch, C, provides the foundation for a special type of diatonic collection called a **major scale**.

Scales differ from collections in that they are ordered. When you play or sing a scale, there is a beginning pitch and an order to the notes that corresponds to the musical alphabet—in this case, C D E F G A B C, the pitches of a C major scale.

Similarly, when the chromatic collection is ordered, it becomes the **chromatic scale**, made up entirely of consecutive half steps. In musical works, composers may include only a segment of this scale. A descending chromatic segment often colors a slow, sad movement, like Purcell's aria (Example 3.1). Chromatic passages may also appear in showy music as a decorative or virtuosic element. For an example, listen to the Trio section of "The Stars and Stripes Forever" (Example 3.3).

EXAMPLE 3.3: Sousa, "The Stars and Stripes Forever," mm. 77–84



Try it #2

In Example 3.3, circle the longest continuous chromatic scale segment in each line. Look for numerous accidentals and consecutive half steps. Write the letter names of the scale segments below.

Show answers

(a) Mm. 77–80:

_____

(b) Mm. 81–84:

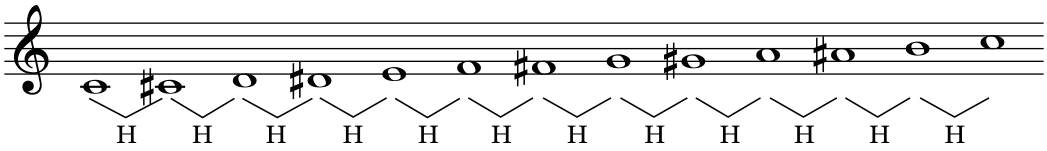
_____

Example 3.4 illustrates a chromatic and a major scale, with whole and half steps identified for comparison. The chromatic scale's steps are all the same size: a half step (H, part a). In contrast, the pattern of whole (W) and half steps in the major scale (part b) is W–W–H–W–W–W–H. When you hear a half step in a major scale, you know it is in one of two specific locations, while in a chromatic scale the half step could be anywhere. The position of the half step thus helps us quickly locate the most stable pitches in a major scale.

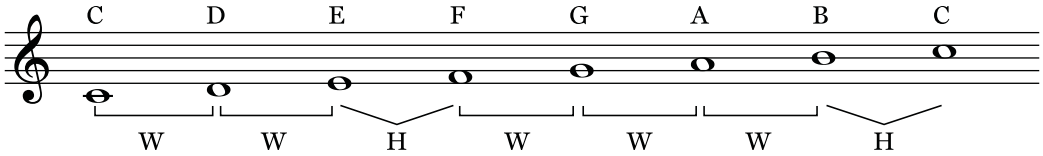
KEY CONCEPT A major scale may begin on any pitch. It must include each of the seven letter names, as in Example 3.4b, and follow the W–W–H–W–W–W–H arrangement of whole and half steps from bottom to top.

EXAMPLE 3.4: Chromatic and major scale patterns

(a) Chromatic



(b) Major



Another Way

One way to remember the W–W–H–W–W–W–H pattern is to think of the white-key notes on the piano: they match exactly the sequence of notes from C up to C.

Scale Degrees

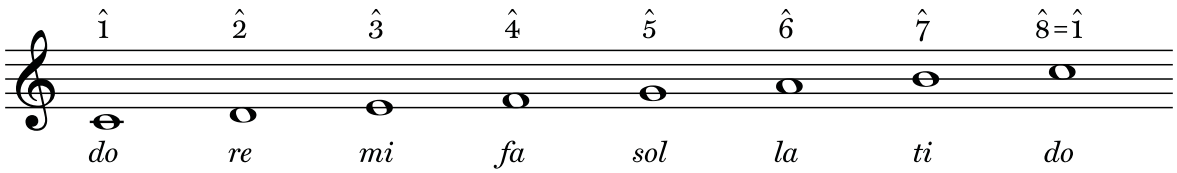
The word “scale” comes from the Latin *scalae* (or the Italian *scala*), meaning “stairs” or “ladder.” Each pitch of the scale is a **scale degree**—or **scale step**, in keeping with the stairs image. When you write or play a scale, its beginning note, called the **tonic**, is usually repeated one octave higher at the end. The tonic scale degree (C in the C major scale) is crucial to the sound and structure of scales and musical passages; it is the most stable scale degree and often serves as the final pitch of a melody. The other scale steps vary in structural weight, depending in part on the musical context.

Scale-degree numbers are written with a caret above: $\hat{1}$, $\hat{2}$, $\hat{3}$, $\hat{4}$, and so on. Some sight-singing methods encourage singing with these numbers. Another method, **movable-do solfège**, or **solfège** for short, assigns each scale degree a syllable—*do*, *re*, *mi*,

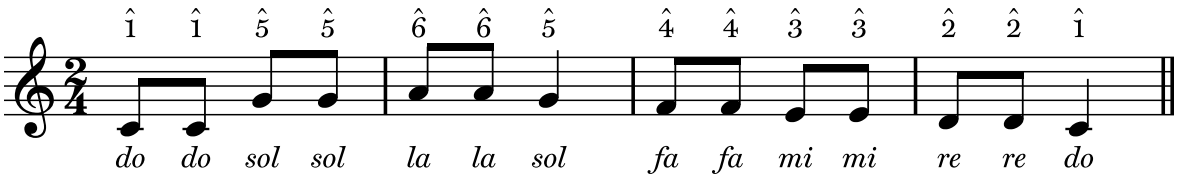
fa, *sol*, *la*, *ti*, *do*—as in Example 3.5a. Part (b) gives scale-degree numbers and solfège syllables for the beginning of "Twinkle, Twinkle, Little Star."

EXAMPLE 3.5: Solfège syllables and scale-degree numbers

(a) Scale beginning on C



(b) "Twinkle, Twinkle, Little Star" (mm. 1–4)



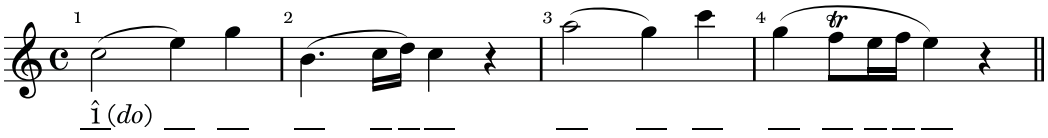
Try it #3

For practice hearing scale-degree relationships in melodies:

(a) Sing up and down a major scale on scale-degree numbers or solfège syllables beginning on any C in a comfortable range. Then write the appropriate number or syllable below each pitch of the two melodies below (assuming C is 1̂, or *do*).

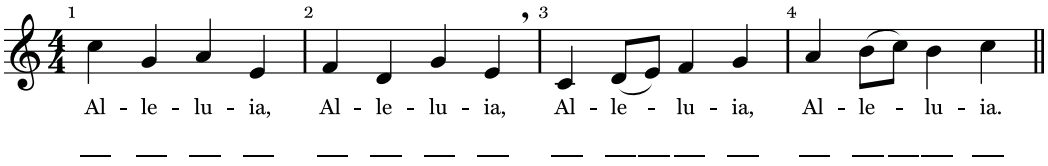
Mozart, Piano Sonata in C Major, mvt. 1, mm. 1–4

Show answers



Mozart, “Alleluia,” mm. 1–4

Show answers



(b) Sing the melodies above on scale-degree numbers or solfège in any comfortable octave. After giving yourself the starting pitch, use a piano or other instrument to check your pitch only if necessary. For now, don’t worry about the rhythm; focus on singing the scale degrees in tune. After singing, listen to the sound file to check your accuracy.

(c) For more practice, sing some familiar tunes on numbers or solfège, such as “Frère Jacques” (“Are You Sleeping?”), which starts 1̂–2̂–3̂–1̂ (*do–re–mi–do*); or “Happy Birthday,” 5̲–5̂–6̲–5̂–1̂–7̲ (*sol–sol–la–sol–do–ti*). An underlined number or syllable indicates that it falls below the tonic.

Show answers

Spelling Major Scales

Chances are, you are already familiar with the sound of major scales from playing and singing them as technical warm-ups. Here’s how to write them.

KEY CONCEPT To write an ascending major scale from any given pitch:

(1) Write the given pitch (scale degree $\hat{1}$) on the staff.

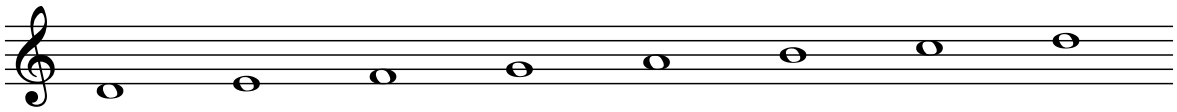
(2) Write pitches with no accidentals on every line and space from that pitch, up to and including the same pitch class an octave higher (Example 3.6a).

(3) Label the space between each pair of consecutive pitches, from bottom to top, W–W–H–W–W–W–H (part b).

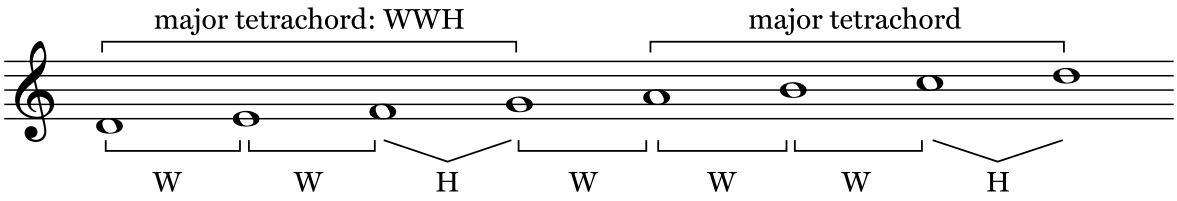
(4) Add an accidental (♯ or ♭) as needed to make the appropriate whole or half step (part c).

EXAMPLE 3.6: Steps in constructing a D major scale

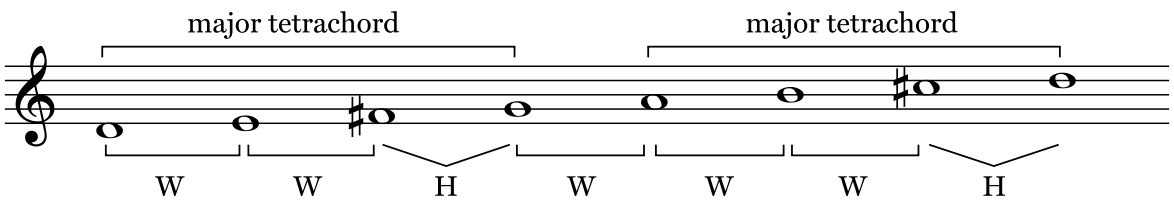
(a) Write note heads on the staff.



(b) Label the correct order of whole and half steps.



(c) Add appropriate accidentals.



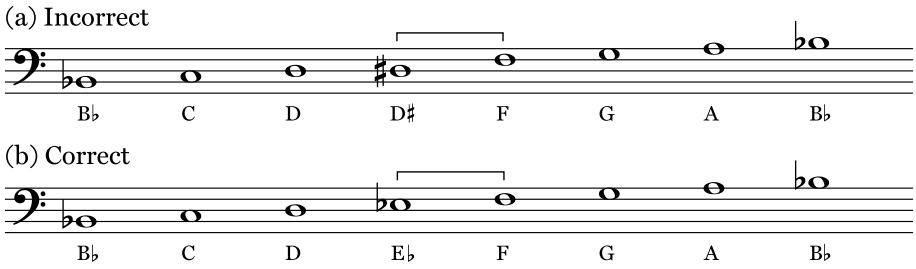
Another way to remember the whole- and half-step pattern is to divide the scale into two four-note groups, or **major tetrachords** ("tetra-" means "four"): $\hat{1}$–$\hat{2}$–$\hat{3}$–$\hat{4}$ and $\hat{5}$–$\hat{6}$–$\hat{7}$–$\hat{8}$. Each major tetrachord consists of the pattern W–W–H, and the two tetrachords are a whole step apart, as marked in Example 3.6. Play major tetrachords, beginning on various pitches, on a keyboard or other instrument to become familiar with their sound.

KEY CONCEPT To "spell" a major scale with the correct letter name and accidental for each pitch:

- Write eight pitches—all seven letters of the alphabet plus the repeated tonic.
- Use accidentals that are either all sharps or all flats, not a mixture.

As Example 3.7a demonstrates, in B♭ major it would be incorrect to write D♯ instead of E♭: this spelling does not include all seven letter names (there is no E), and it mixes flats with sharps. Part (b) provides the correct spelling. When spelling scales, never change the given pitch. If your scale doesn't conform to these guidelines, go back and check your work.

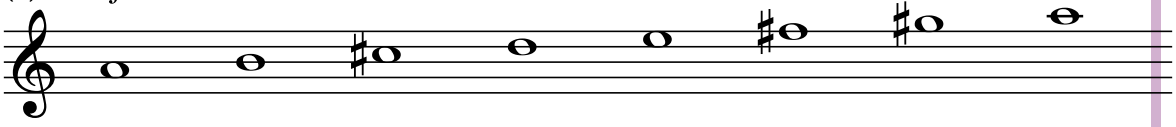
EXAMPLE 3.7: Notation of the B♭ major scale



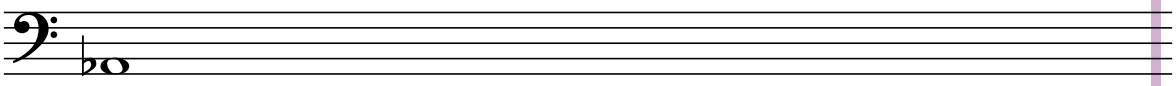
Try it #4

Follow the steps above to write a major scale from each given pitch. Show answers

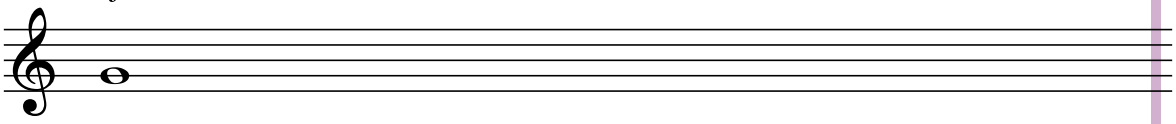
(a) A major



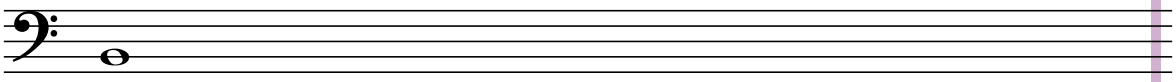
(b) A♭ major



(c) G major



(d) B major



Spelling Chromatic Scales

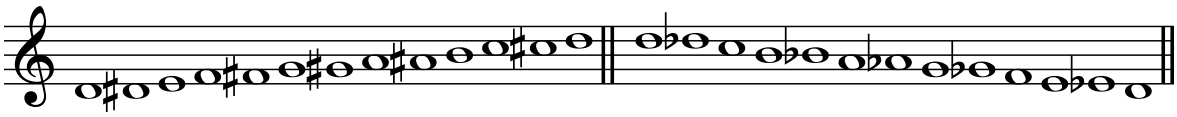
Unlike major scales, chromatic scales must include some letter names more than once.

KEY CONCEPT A half step spelled D–D♯ is a **chromatic half step**: the same letter name plus a chromatic alteration. A half step spelled D–E♭ is a **diatonic half step**: different letter names for adjacent pitches in a diatonic scale.

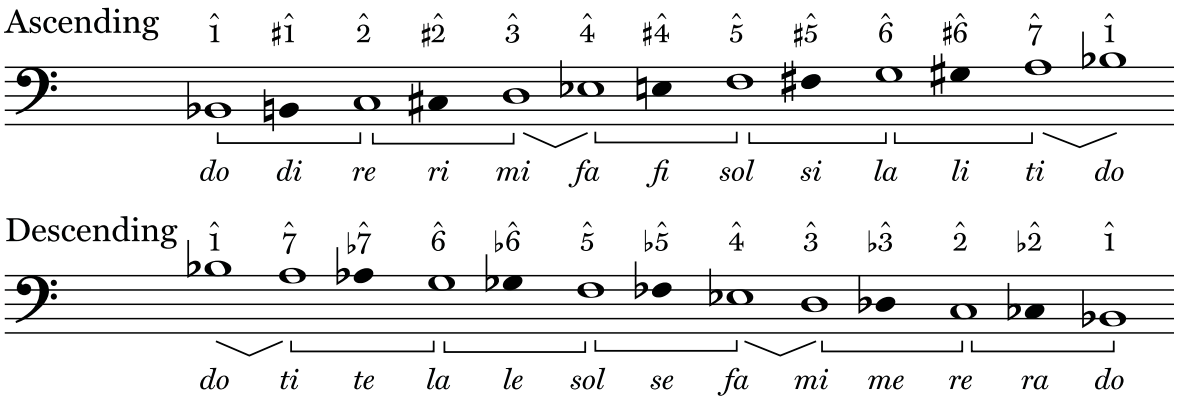
Chromatic scales may be notated in one of two ways, depending on the context. When no key is specified or the key is unclear, simply raise notes when ascending and lower them when descending, as in Example 3.8a.

EXAMPLE 3.8: Two ways to notate chromatic scales

(a) Sharps ascending, flats descending (when the key context is unclear)



(b) In the context of a B♭ major scale (represented in whole notes)



Part (b) shows the chromatic scale spelled in the context of a B♭ major scale. If a key is specified, first write the underlying major scale in whole notes, then fill in each whole step with a chromatic half step: raise the scale degrees with ♯ or ♮ going up, and lower them with ♭ or ♮ going down. This results in a scale with mixed accidentals (and additional solfège syllables), but a clear underlying tonal context.

It is important to pay careful attention to how you spell scales and other musical elements. In practical terms, the correct spelling makes a score easier to sight-read. Once you are used to the look and feel of a particular key, unusual spellings can be distracting or confusing. Spelling anything incorrectly–even if the spelling "sounds" the same–changes its musical meaning.

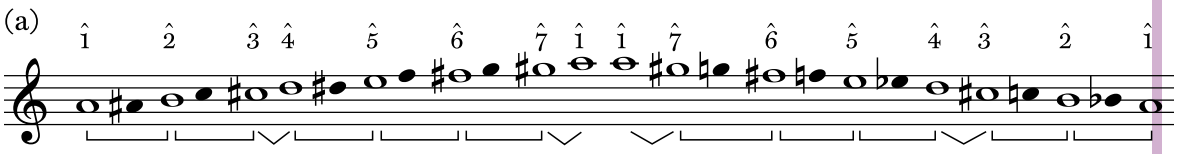
Try it #5

Try it #5

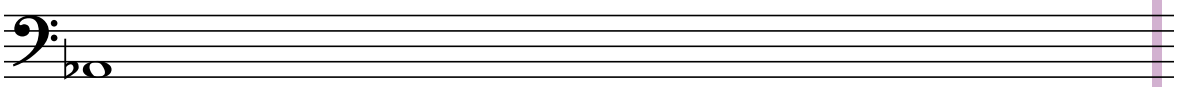
Write a chromatic scale (ascending and descending) beginning with the pitches shown below. Base the spelling on the corresponding major scales you wrote for *Try it* #4. Label the diatonic scale degrees, and write these pitches with whole notes. Then fill in the half steps between them (with filled note heads) as appropriate.

Show answers

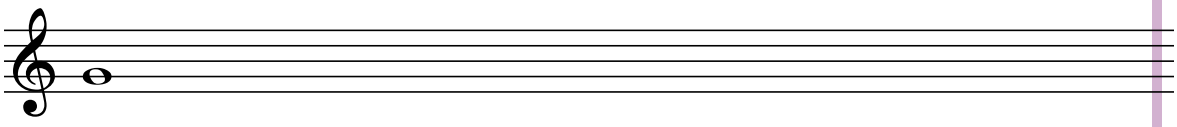
(a)



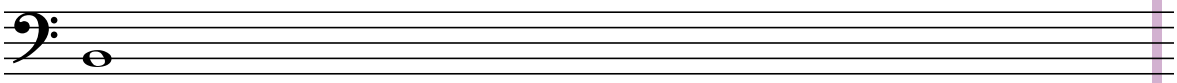
(b)



(c)



(d)

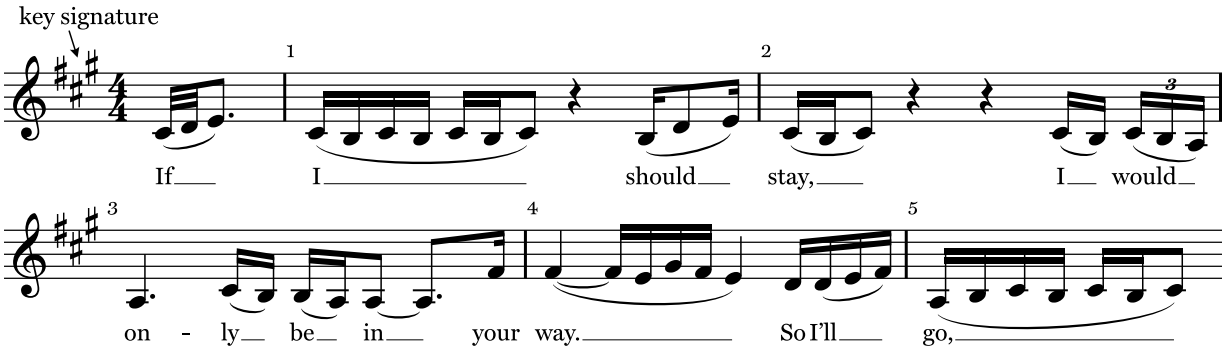


Major Keys

Key Signatures

In writing scales so far, we have added an accidental next to any note that needed it. In tonal music, however, this type of notation is not standard practice. Instead we use a shorthand notation, called a key signature, at the beginning of the score to specify consistent accidentals for the whole piece. Look at the beginning of Dolly Parton's "I Will Always Love You," given in Example 3.9.

EXAMPLE 3.9: Parton, "I Will Always Love You," mm. 1–5

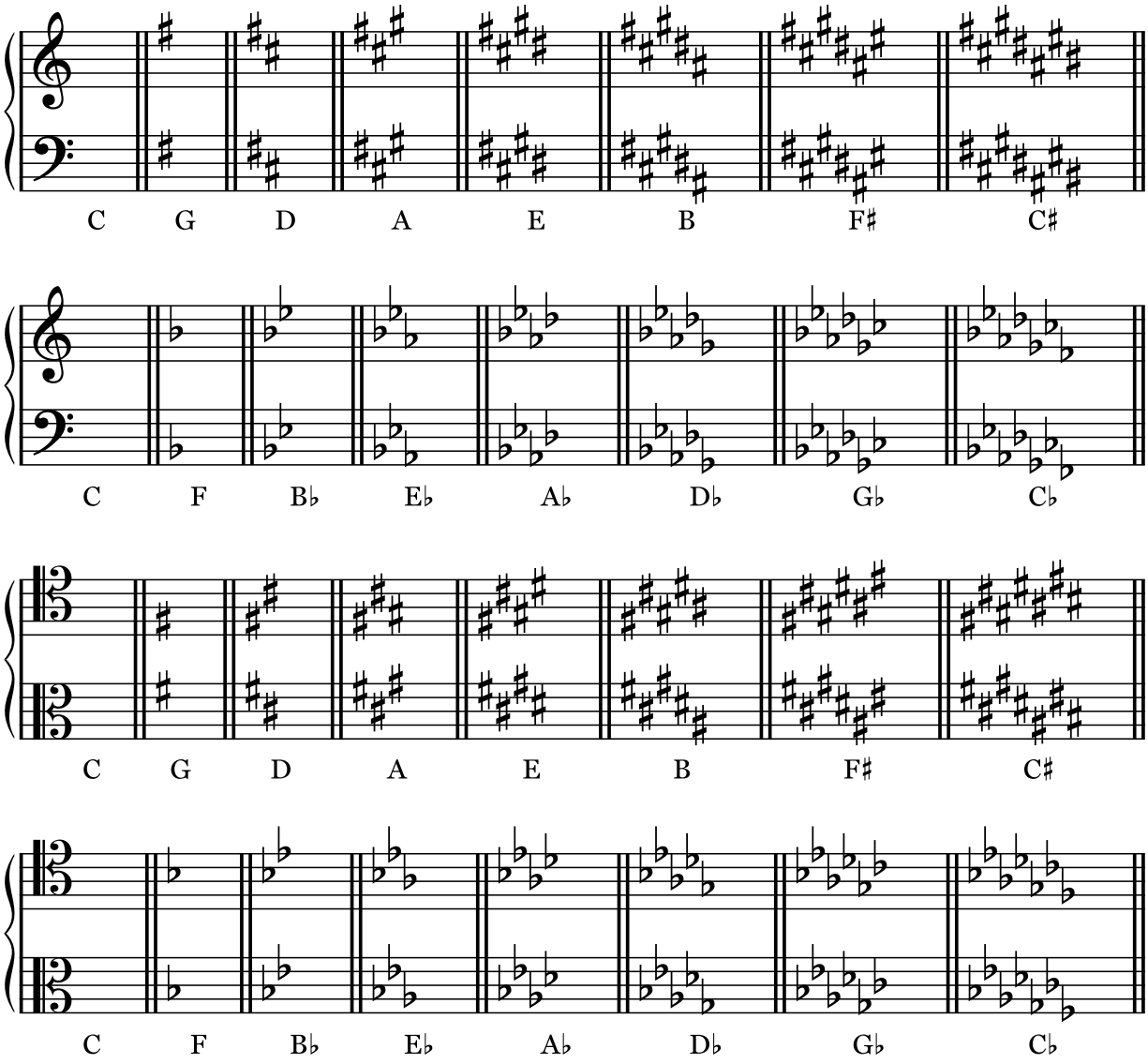


This song is in A major, whose scale includes three sharps, yet not a single accidental is notated next to any pitch. Instead, the key signature at the beginning of each line instructs the singer to sharp every F, C, and G.

KEY CONCEPT A **key signature** shows which pitches are to be sharped or flatted consistently throughout a work. It appears at the beginning of each line of a score, immediately after the clef. (The meter signature, in contrast, is written only once at

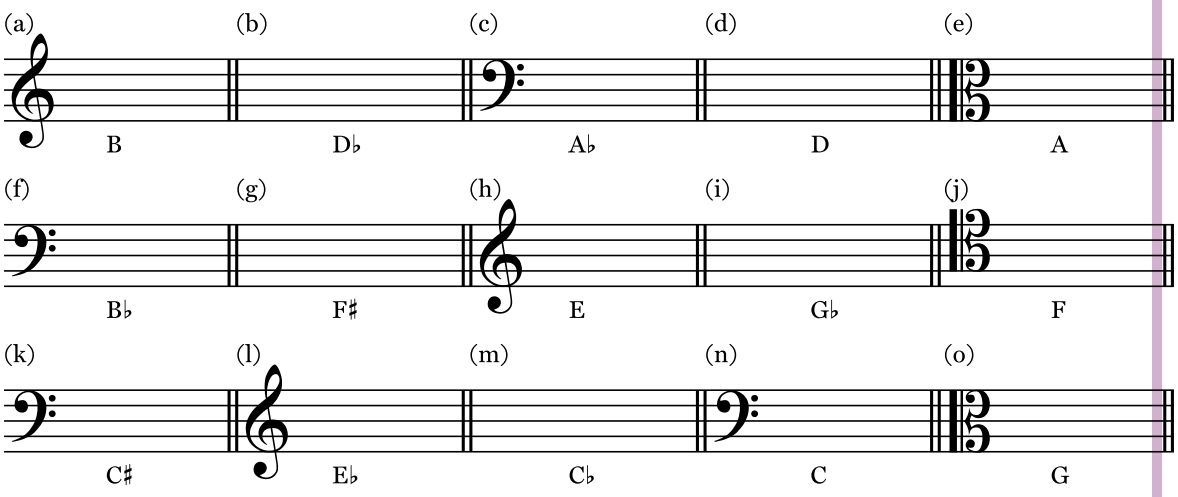
the beginning of the score, after the key signature, for most of the music we will study.) The key signature, together with the work's pitch collection and the relationships between its pitches, determine the key of the work.

To say that a piece of music is "in" a key (for example, A major) means that its pitches are drawn primarily from a single scale (A major), and that the pitches have predictable relationships of stability and instability. For example, the first note of the scale (î) is the most stable (where a piece will usually end). Figure 3.1 presents all the major key signatures. Memorize them, together with their position on the staff, since many skills you will learn in later chapters build on this knowledge.

FIGURE 3.1: Major key signatures in four clefs

Try it #6

On the staves below, copy the major key signatures requested, taking Figure 3.1 as your model. Center each accidental on the appropriate line or space.

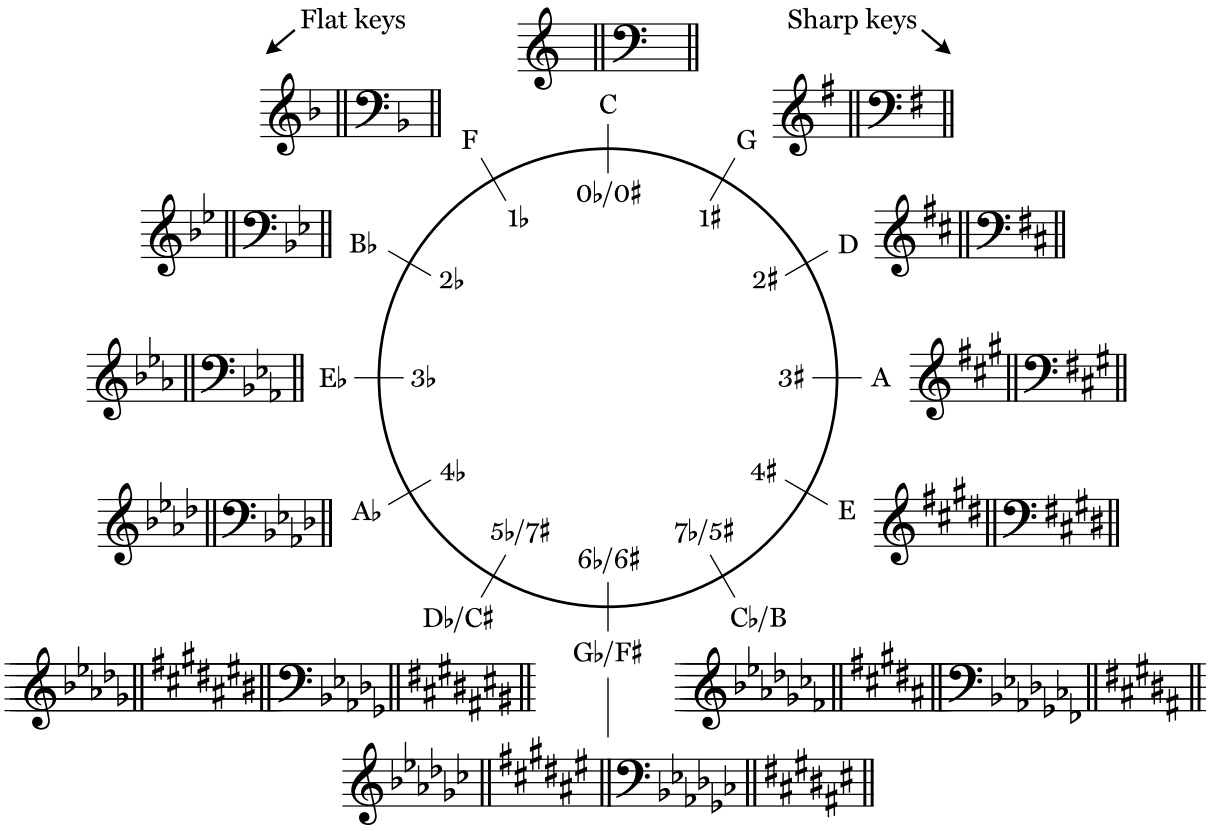
Show answers



The Circle of Fifths

In key signatures, each time a new sharp is added, the new key is five steps higher than the last; and as a new flat is added, the new key is five steps lower than the last. This important relationship between keys, called the **circle of fifths**, is represented in the diagram in Figure 3.2. The sharp keys appear around the right side of the circle (each a fifth higher), while the flat keys appear around the left side (each a fifth lower). Keys at the bottom may be spelled with either flats or sharps; these are enharmonic keys (e.g., G♭ major and F♯ major). You may find the circle of fifths a helpful aid as you learn the key signatures. If so, you will be in good company: music students have relied on such a circle since the eighteenth century.

FIGURE 3.2: Circle of fifths



Identifying a Key from a Key Signature

Although you should memorize which key goes with each signature, you can also calculate the name of the key from the signature.

KEY CONCEPT To determine the major key from a key signature:

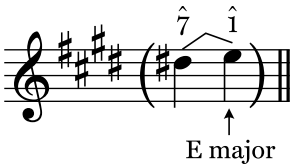
- For sharp keys, the last sharp of the signature is scale degree $\hat{7}$ (or *ti*). To find the tonic ($\hat{1}$, or *do*), go up a diatonic half step (Example 3.10a).
- For flat keys, the last flat is $\hat{4}$ (or *fa*); count down four diatonic steps to the tonic (part b).

Shortcut: Since flats are spaced a fourth apart, the next-to-last flat (in a signature with two or more flats) represents the name

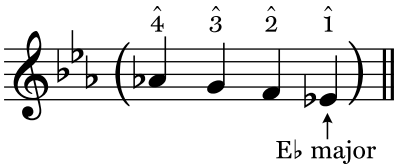
of the key (part c).

EXAMPLE 3.10: Determining the major key

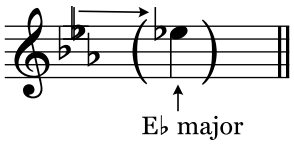
(a) Sharp keys: Count up a diatonic half step.



(b) Flat keys: Count down four scale steps.



(c) Flat keys shortcut: Next-to-last flat.

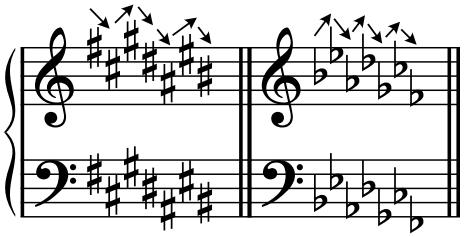


Writing Key Signatures

To write music that others can read easily, you need to learn the standard order, octave, and spacing for each key signature, as shown in Example 3.11. Memorize these signatures with each accidental in its correct order and octave placement.

KEY CONCEPT The key signature goes between the clef and meter signature, which is easy to remember if you just think alphabetical order: clef, key, meter. The order of the sharps is F-C-G-D-A-E-B; the order of the flats is the same, only

backward: B-E-A-D-G-C-F. The sharps are positioned on the staff alternating "down-up," while the flats alternate "up-down." (This pattern is occasionally broken to avoid writing an accidental on a ledger line.)

EXAMPLE 3.11: Order of the sharps and flats

Another Way

A helpful mnemonic (or memory device) for the first four flats is that they spell the word "bead." And a handy sentence to remember the order of both sharps and flats is "Father Charles Goes Down And Ends Battle." When you read it forward, the first letter of each word gives you the order of the sharps; when you read it backward ("Battle Ends And Down Goes Charles' Father"), it gives you the order of the flats.

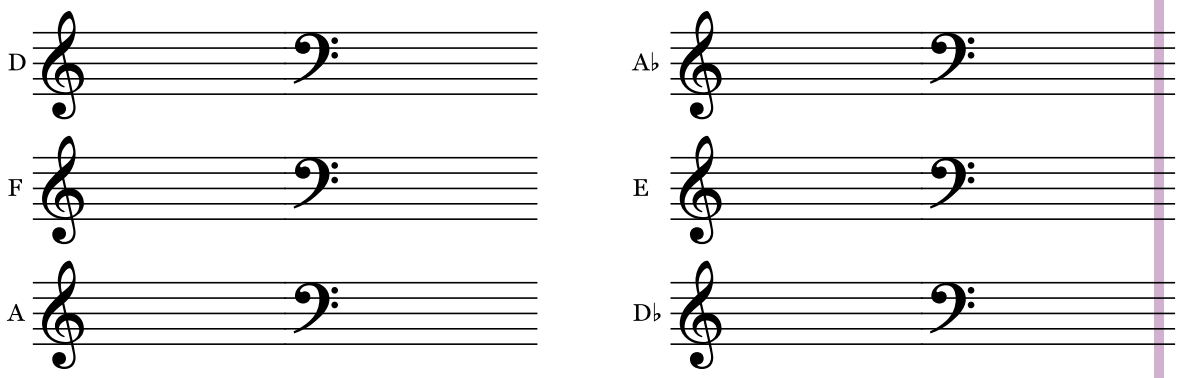
SUMMARY

1. To write the key signature of a sharp key, think down a diatonic half step from the name of the key: this will be the last sharp of the signature.
   - In B major, the last sharp is A♯; the signature is F♯-C♯-G♯-D♯-A♯.
2. The name of a flat key is the next-to-last flat.
   - In A♭ major, the next-to-last flat is A♭; the

signature is B♭-E♭-A♭-D♭.

Try it #7

Write key signatures for the major keys specified below from memory, in the treble and bass clefs. **Show answers**



Identifying the Key of a Piece

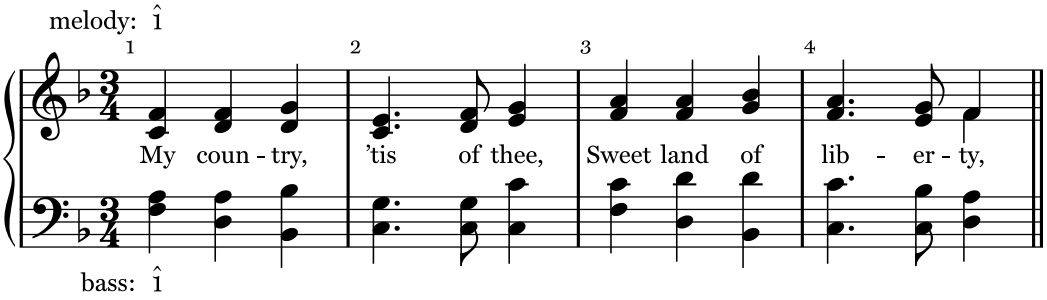
If a piece begins with a key signature of one flat, you might assume that it is in F major, but the key signature alone is not enough to determine the key of a piece. As we will see in Chapter 5, it can indicate either a major or minor key.

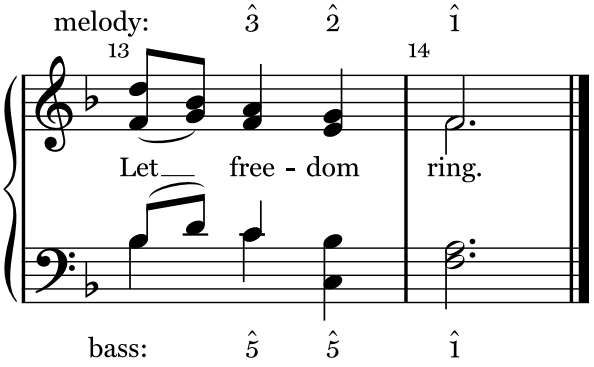
KEY CONCEPT To find the key of a piece, first check the key signature, then check the beginning and end of the piece for characteristic scale degrees. The last note of the melody usually ends on î of the key. Typical patterns at the end are $\hat{2}$–î or $\hat{7}$–î in the melody and $\hat{5}$–î in the lowest-sounding voice (the bass). The most common scale degrees at the beginning of both melody and bass are î, $\hat{3}$, and $\hat{5}$.

Listen to "My Country, 'Tis of Thee" (Example 3.12), and focus

on the beginning and end to decide its key.

EXAMPLE 3.12: "My Country, 'Tis of Thee"

(a) Mm. 1–4

(b) Mm. 13–14



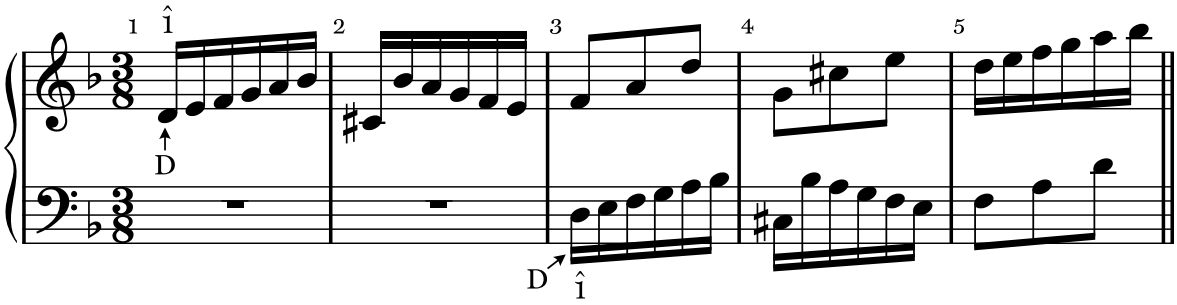
First, observe the key signature of one flat, which suggests F major. Next, confirm this key by checking the beginning and end of the melody and bass line. The melody begins on $\hat{1}$ (F) and ends with $\hat{3}$–$\hat{2}$–$\hat{1}$ in F major, while the bass begins on $\hat{1}$ and ends with $\hat{5}$–$\hat{1}$. Both clearly express the key of F major.

In contrast, look at the Bach invention excerpts given in Example 3.13. This piece also has a key signature of one flat, but the notes at the beginning and end emphasize D, not F. The

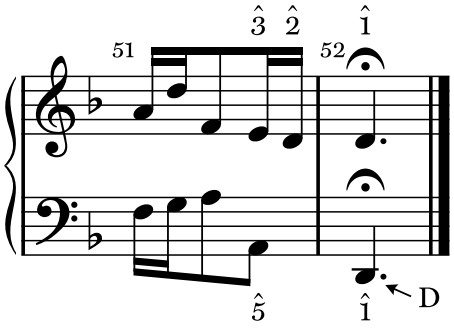
melody begins in D in both voices (both lines), and it ends with $\hat{3}$–$\hat{2}$–$\hat{1}$ to D in the top voice and $\hat{5}$–$\hat{1}$ to D in the bottom voice. The piece is not in F major, but in D minor; minor keys will be discussed in Chapter 5.

EXAMPLE 3.13: Bach, Invention in D Minor

(a) Mm. 1–5



(b) Mm. 51–52



Try it #8

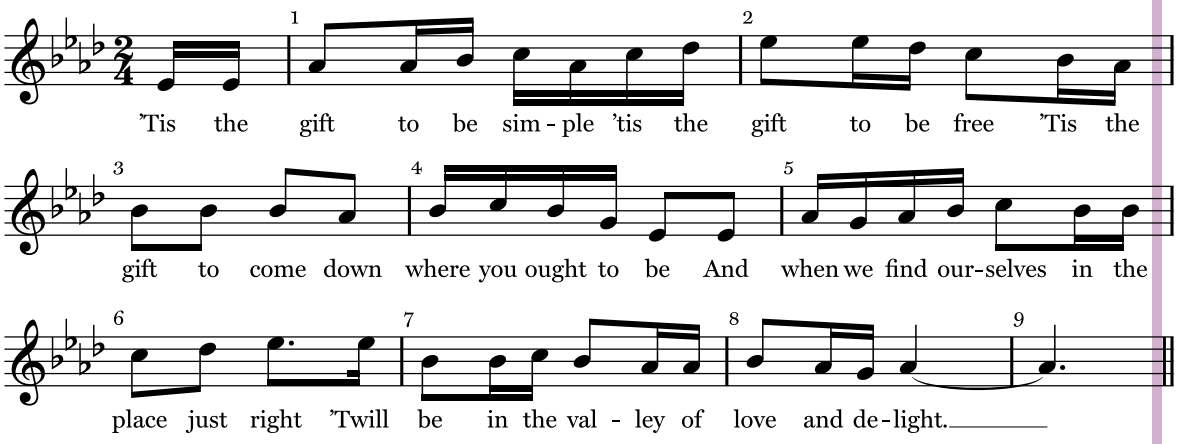
In what key is the excerpt below notated?

Show answers

- Key signature suggests what key? _____

- First two scale degrees? _____
- Last scale degree? _____ Key of piece: _____

"Simple Gifts"

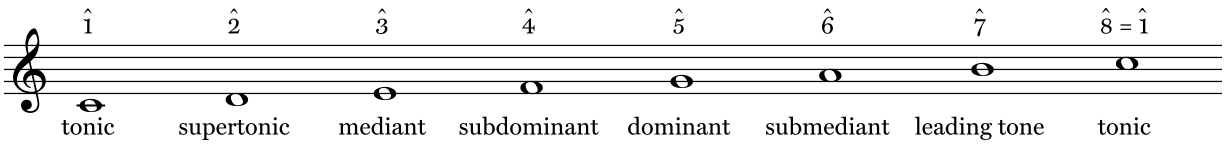

'Tis the gift to be sim - ple 'tis the gift to be free 'Tis the
gift to come down where you ought to be And when we find our-selves in the
place just right 'Twill be in the val - ley of love and de-light.

Scale-Degree Names

In addition to numbers, scale degrees also have names, as specified in Example 3.14 and Figure 3.3. These names can indicate either the scale degree itself or the harmony built on it (which will be covered in Chapter 7).

EXAMPLE 3.14: Scale-degree names

(a) Arranged $\hat{1}$ to $\hat{1}$


$\hat{1}$ $\hat{2}$ $\hat{3}$ $\hat{4}$ $\hat{5}$ $\hat{6}$ $\hat{7}$ $\hat{8} = \hat{1}$
tonic supertonic mediant subdominant dominant submediant leading tone tonic

(b) Arranged with $\hat{1}$ in the middle

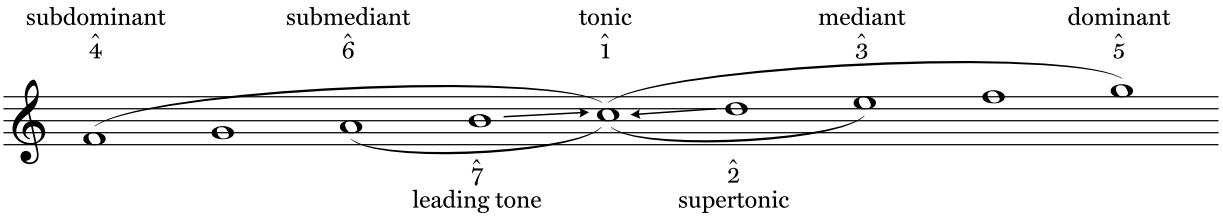


FIGURE 3.3: Scale-degree names and their meanings

SCALE DEGREE	NAME	MEANING
$\hat{1}$	**tonic**	The "tone" on which the scale is built.
$\hat{2}$	**supertonic**	"Super-" means "above"; its position is immediately above
$\hat{3}$	**mediant**	Falls in the "medial" position midway between $\hat{1}$ and $\hat{5}$.
$\hat{4}$	**subdominant**	"Sub-" means "below"; the same distance below the tonic as dominant is above (part b).
$\hat{5}$	**dominant**	Its function "dominates" tonal music.
$\hat{6}$	**submediant**	Three scale steps below the tonic, just as the mediant is three scale steps above (part b).
$\hat{7}$	**leading tone**	Tends to lead upward toward the tonic; sometimes called a **tendency tone** because of this strong pull.

Try it #9

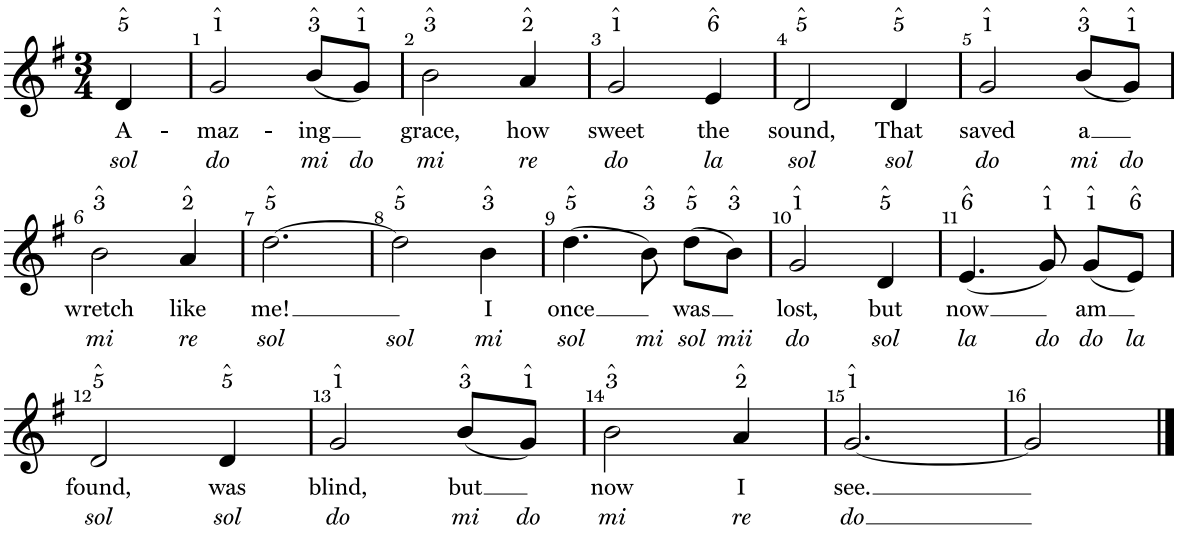
Fill in the letter name for the scale degree in each specified scale. **Show answers**

SCALE	SCALE DEGREE	LETTER NAME
F major	$\hat{4}$	_____
G major	leading tone	_____
A♭ major	$\hat{5}$	_____
E major	mediant	_____
B major	supertonic	_____
D♭ major	$\hat{6}$	_____

The Major Pentatonic Scale

Listen to Example 3.15, "Amazing Grace," or sing it on solfège or scale-degree numbers. Although the melody sounds major, it includes only a subset of the major scale: $\hat{1}$, $\hat{2}$, $\hat{3}$, $\hat{5}$, and $\hat{6}$ (*do*, *re*, *mi*, *sol*, *la*), missing $\hat{4}$ and $\hat{7}$ (*fa* and *ti*). Because this collection features only five of the seven diatonic pitches, it is called a **pentatonic** scale ("penta-" means "five"). Of the numerous pentatonic collections found in folk and popular music, world music, rock, and jazz, this one is called the **major pentatonic** because it begins with the first three degrees of the major scale.

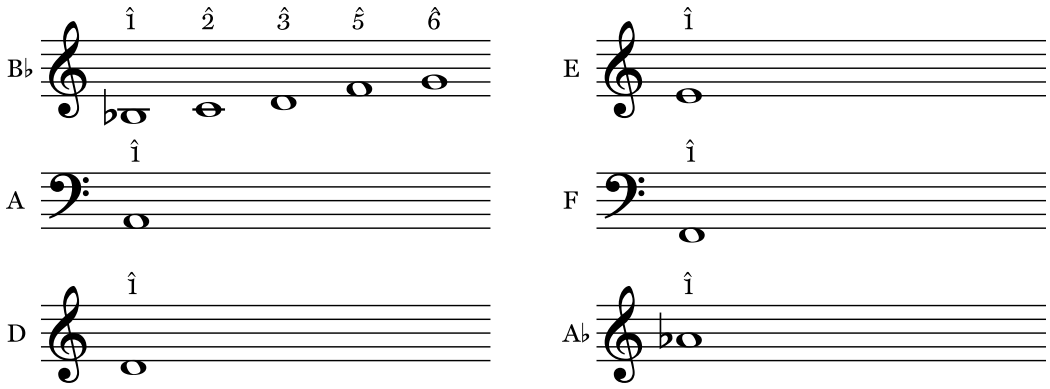
EXAMPLE 3.15: Newton, "Amazing Grace," mm. 1–16


A - maz - ing grace, how sweet the sound, That saved a
sol do mi do mi re do la sol sol do mi do
wretch like me! I once was lost, but now am
mi re sol sol mi sol mi sol mii do sol la do do la
found, was blind, but now I see.
sol sol do mi do mi re do

Try it #10

Write major pentatonic scales beginning on the following notes, and label the scale degrees $\hat{1}$–$\hat{2}$–$\hat{3}$–$\hat{5}$–$\hat{6}$ or *do*–*re*–*mi*–*sol*–*la*.

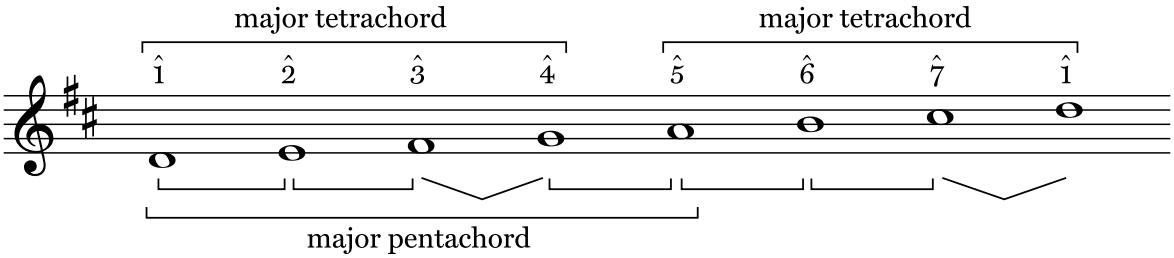
Show answers


B♭
Â
2̂
3̂
5̂
6̂
E
Â
A
Â
F
Â
D
Â
A♭
Â

Implications for Performance

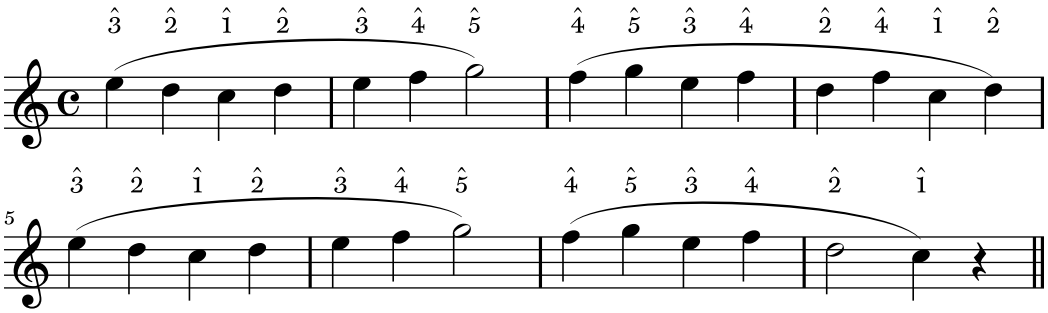
What are scales used for? For one thing, practicing scales on an instrument helps you gain finger facility in different keys, the better to meet the technical demands of works that include scalar passages. It also helps you to think in different keys, which in turn helps with memorization and improvisation. Melodies may not include all the notes of a scale; many are composed with only the first five, called the **major pentachord**, $\hat{1}$–$\hat{2}$–$\hat{3}$–$\hat{4}$–$\hat{5}$ (or *do–re–mi–fa–sol*; W–W–H–W).

EXAMPLE 3.16: The major pentachord: $\hat{1}$–$\hat{2}$–$\hat{3}$–$\hat{4}$–$\hat{5}$



The melody of Schumann's "Trällerliedchen" (Example 3.17) does not venture beyond the major pentachord. If you practice playing ascending and descending major pentachords in every key, you will find your sight-reading much improved for melodies like this one.

EXAMPLE 3.17: Schumann, "Trällerliedchen," mm. 1–8



KEY CONCEPT The major pentachord is a scale segment of consecutive pitches: 1̂–2̂–3̂–4̂–5̂. Don't confuse it with the major pentatonic scale, which skips 4̂ and 7̂: 1̂–2̂–3̂–5̂–6̂.

Scales also make a helpful analytical tool: an abstraction from a piece that clarifies the function and relationship of pitches within it—especially the tendency tones and their expected resolutions (such as 7̂–1̂). Eventually you may choose to bring out tendency tones and their resolutions in performance. In preparation for the analytical work in future chapters, you should be able to play all the major pentachords and major scales on a keyboard, as well as on your own instrument. Work with your performance teachers for the correct fingering and technique.

Did You Know?

The invention of solfège is usually attributed to Guido of Arezzo, an eleventh-century monk. Starting with a chant whose phrases began on C, D, E, F, G, and A, he represented each of those notes by the first syllable of the phrase's Latin text:

C : Ut queant laxis,
D : Resonare fibris,
E : Mira gestorum,
F : Famuli tuorum,

G : Solve polluti,
A : Labrii reatum, Sancte Johannes

This six-syllable system worked well with the music of Guido's time, which could be sung using six-note segments called hexachords, starting on three different different notes: C, F, and G. In fact, the three hexachords (called the natural, soft, and hard hexachords) are also the source of our modern notation for natural, flat, and sharp signs. Singers back then sang on syllables by moving between the three hexachords, and they used a mnemonic device based on the knuckles of the hand to remember the syllable changes. Today we call this a "Guidonian hand." Since Guido's time, the system has been altered only a little– changing *ut* to *do*, and adding a seventh syllable, *ti*, for the leading tone.

TERMS YOU SHOULD KNOW

chromatic
chromatic half step
circle of fifths
collection
diatonic half step
dominant
key signature
leading tone
major pentachord
mediant
pentatonic
scale
• chromatic
• diatonic
• major
• major pentatonic
scale degree
solfège syllables
subdominant
submediant
supertonic
tendency tone
tetrachord
tonic

QUESTIONS FOR REVIEW

1. What are the whole- and half-step patterns in the major and chromatic scales?

2. What are two different systems for spelling chromatic scales? How do you decide which one to use?
3. What is the interval pattern for a major tetrachord? Spell the two major tetrachords in E major.
4. How can you identify the key of a flat-key work from its key signature? a sharp-key work?
5. What is the order of sharps in a key signature? of flats? What pattern do you follow to place them in the correct octave?
6. Name two systems for identifying scale degrees.
7. How is the circle of fifths constructed, and how can it help you learn key signatures?
8. In addition to the key signature, what other musical aspects should you check to identify the key of a work?
9. Which scale degrees form a major pentatonic scale? a major pentachord?
10. Find a passage of music for your instrument or voice that includes a portion of a chromatic scale. Find a complete major scale and major pentachord.

Know It? Show It!

Focus by working through the tutorials.

Learn with InQuizitive.

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4 Compound Meters

Outline

Hearing compound meters

Meter signatures

Rhythmic notation in compound meters
- The dotted-quarter beat unit
- Subdividing the beat
- Beat units other than the dotted quarter

Syncopation

Mixing beat divisions and groupings
- Triplets
- Duplets, quadruplets, and polyrhythm
- Hemiola in compound meter

Metric accent and implications for performance

Overview

In this chapter, we learn typical rhythmic patterns in compound meters, and how to notate and perform these patterns.

Repertoire

"Agincourt Song"
Johann Sebastian Bach, Fugue in E♭ Major for Organ (*St. Anne*)
Johannes Brahms, "Die Mainacht" ("The May Night")
Frédéric Chopin, Nocturne in E♭ Major, Op. 9, No. 2
"Down in the Valley"
"Greensleeves"
Gustav Holst, Second Suite for Military Band, mvt. 4 ("Fantasia on the 'Dargason'")
"Home on the Range"
Elisabeth-Claude Jacquet de la Guerre, Gigue, from Suite No. 3 in A Minor
Wolfgang Amadeus Mozart, Lacrymosa, from *Requiem*
Smokey Robinson, "You've Really Got a Hold on Me"
Franz Schubert, "Der Lindenbaum" ("The Linden Tree"), from *Winterreise* (*Winter Journey*)

Hearing Compound Meters

Listen to the familiar folk song “Greensleeves.” Tap the primary beat, then listen for a quick-paced secondary beat (the beat division) that helps establish the song’s character. If you conduct along (using the same conducting patterns from Chapter 2) while tapping this beat division, you may recognize that the meter is compound duple. Because we associate a lilting quality with music in compound meter, composers often choose these meters for pastoral or folk-like music, lullabies, or dances.

Meter Signatures

Compound meter signatures differ from simple ones in several ways, the most important being that the lower number in compound meter signatures represents the beat *division* rather than the beat unit.

KEY CONCEPT In compound meters:

- The top number of the meter signature is 6, 9, or 12, representing duple, triple, or quadruple meter, respectively. Divide this by three to get the number of beats per measure (two, three, or four).
- The lower number is usually 8, but may also be 4 or 16 (rarely 2). This number shows the type of note that represents the division of the beat (usually ♪). Add three of these note values together to get the beat unit (♫ = ♩.), which will always be a dotted note.

The most common compound meters are summarized in Figure 4.1.

FIGURE 4.1: Compound meter signatures

(a) Dotted-quarter beat unit:

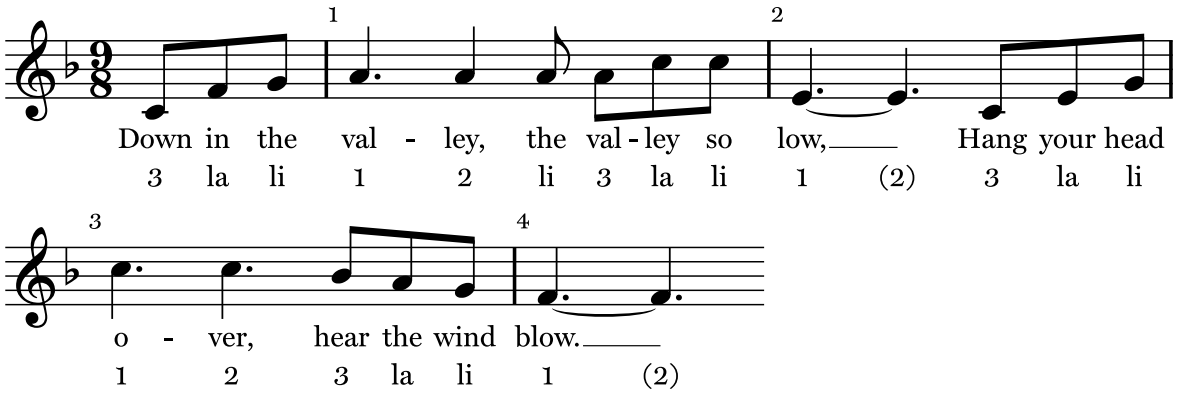
METER SIGNATURE	BEATS PER MEASURE	BEAT UNIT	METER TYPE
6/8	2	♩.	compound duple
9/8	3	♩.	compound triple
12/8	4	♩.	compound quadruple

(b) Other beat units:

METER SIGNATURE	BEATS PER MEASURE	BEAT UNIT	METER TYPE
6/4	2	𝅗𝅥.	compound duple
9/4	3	𝅗𝅥.	compound triple
12/4	4	𝅗𝅥.	compound quadruple
6/16	2	𝅘𝅥𝅯.	compound duple
9/16	3	𝅘𝅥𝅯.	compound triple
12/16	4	𝅘𝅥𝅯.	compound quadruple

Consider the $\frac{9}{8}$ meter signature for "Down in the Valley" (Example 4.1). To determine the number of beats per measure, divide the top number by three: three beats per measure. For the beat unit, add three eighth notes—from the bottom number, 8—to get a dotted quarter. The meter type is compound triple: three beats per measure with a ♩. beat unit. One possible counting system ("1 la li, 2 la li, 3 la li") is given beneath the words.

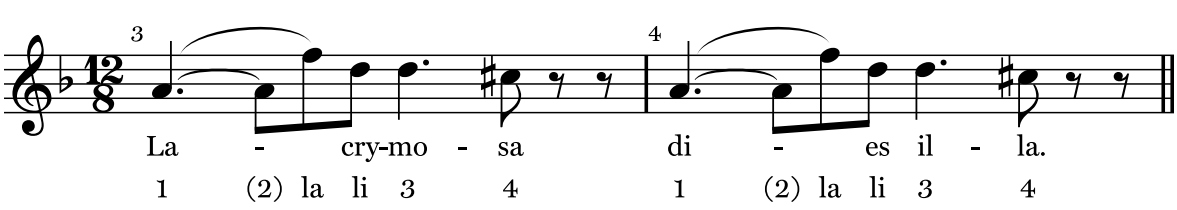
EXAMPLE 4.1: "Down in the Valley," mm. 1–4

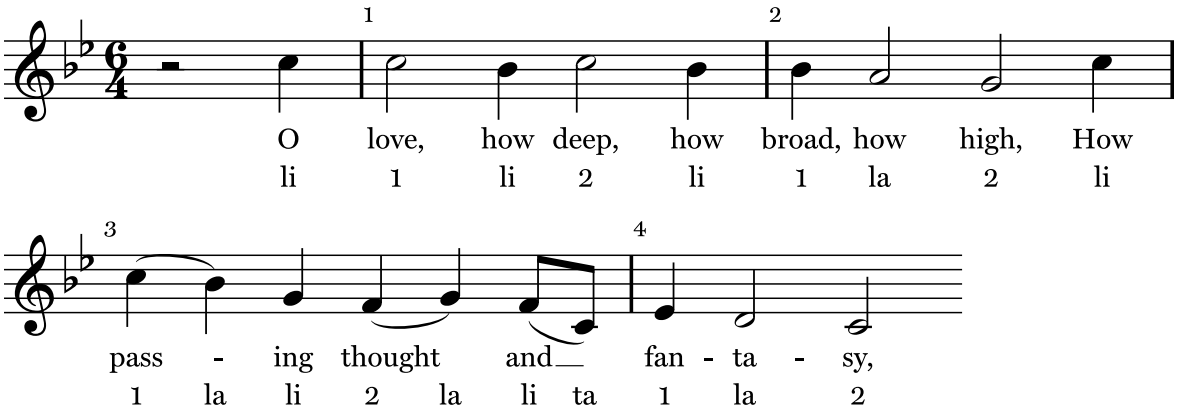


This tune begins with an anacrusis of three eighth notes, equaling one beat. As in simple meters, the final measure will be incomplete—with only two beats—to balance the anacrusis.

Look now at the meter signatures of Examples 4.2 and 4.3. The $\frac{12}{8}$ meter of Mozart's Lacrymosa has four beats per measure (12 : 3 = 4) and a ♩. beat unit. The $\frac{6}{4}$ meter of the "Agincourt Song" has two beats per measure (6 : 3 = 2) and a dotted-half beat unit (♩.♩.♩. = 𝅗𝅥.).

KEY CONCEPT At the beat level, metrical accents in compound meters are the same as in simple meters: compound duple ($\frac{6}{8}$) is strong-weak, compound triple ($\frac{9}{8}$) is strong-weaker-weakest, and compound quadruple ($\frac{12}{8}$) is strongest-weak-strong-weak. Conduct them in two, three, and four.

EXAMPLE 4.2: Mozart, Lacrymosa, from *Requiem* (soprano part), mm. 3–4

EXAMPLE 4.3: "Agincourt Song" (England, c. 1415), mm. 1–4



Try it #1

For each simple or compound meter in the chart below, provide the meter type (e.g., simple triple), beat unit, and number of beats per measure.

Show answers

METER	METER TYPE	BEAT UNIT	BEATS PER MEASURE
9/8	compound triple	♩.	3
2/2	_____	_____	_____
12/8	_____	_____	_____
12/4	_____	_____	_____
4/8	_____	_____	_____
3/2	_____	_____	_____
2/4	_____	_____	_____
6/8	_____	_____	_____

Rhythmic Notation in Compound Meters

The Dotted-Quarter Beat Unit

Figure 4.2 provides note values and rests in compound meters, while Figure 4.3 shows common one-beat patterns in meters with a ♩. beat unit.

FIGURE 4.2: Note values and rests in compound meters with a ♩. beat unit

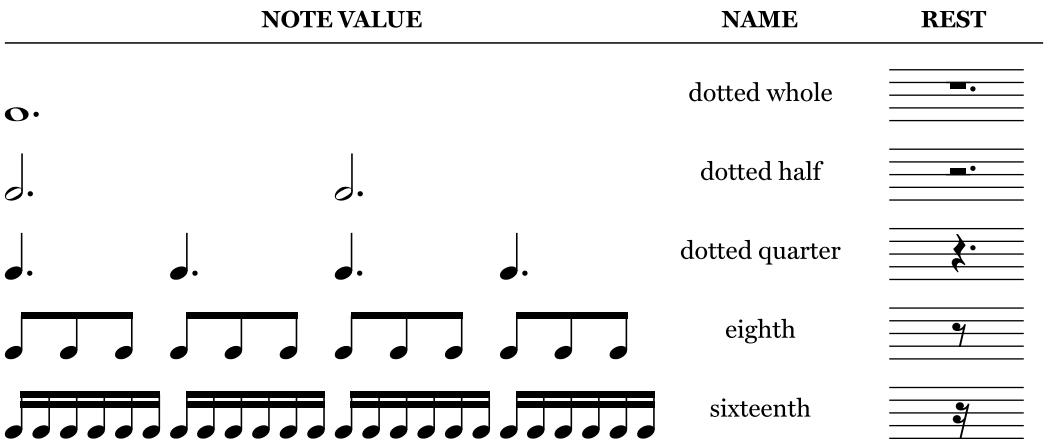
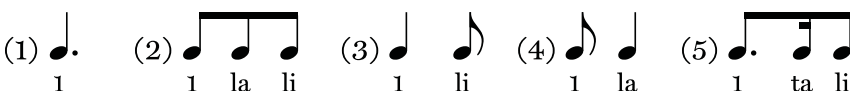
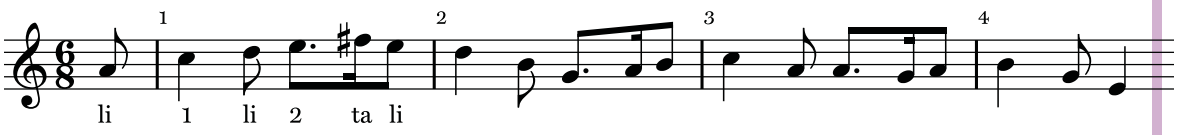


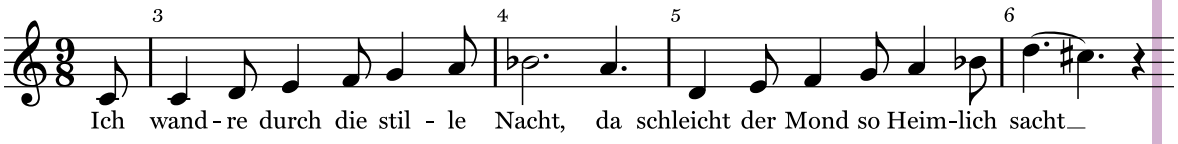
FIGURE 4.3: Five common one-beat patterns, with a ♩. beat unit

Try it #2

Provide counting syllables for the melodies below, using

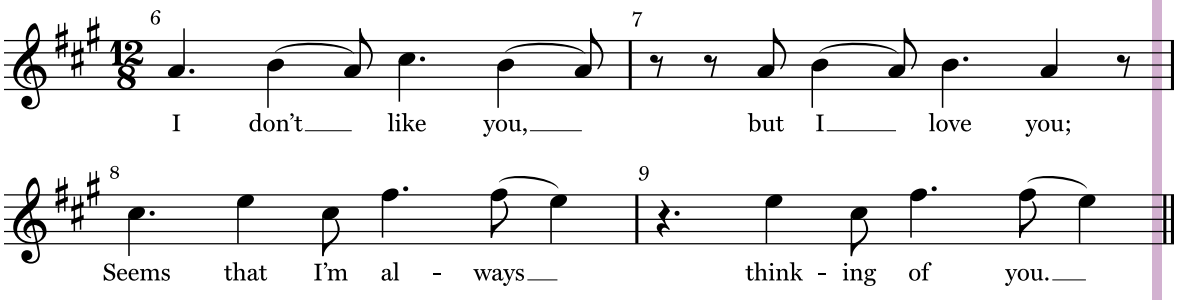
Figure 4.3 as your model. Write the counts for rests in parentheses.

(a) “Greensleeves,” mm. 1–4

Show answers

(b) Hensel, “Nachtwanderer,” mm. 3–6

Show answers

(c) Robinson, “You’ve Really Got a Hold on Me,” mm. 6–9

Show answers

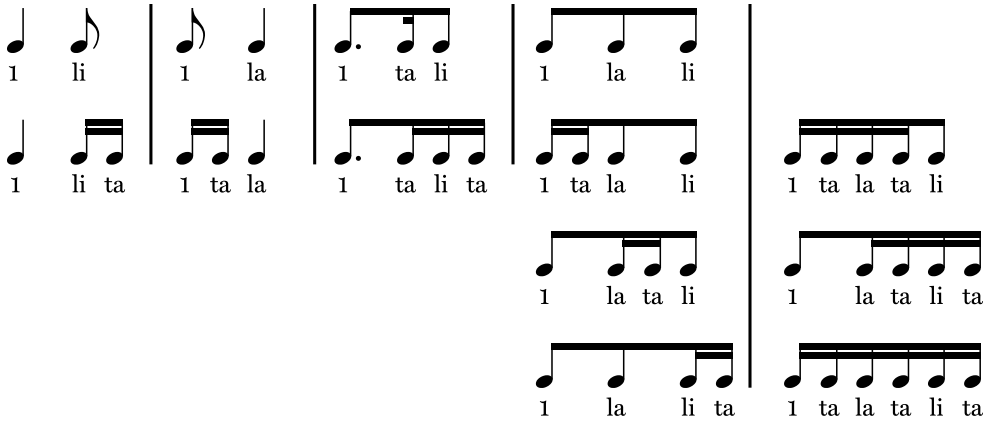


Subdividing the Beat

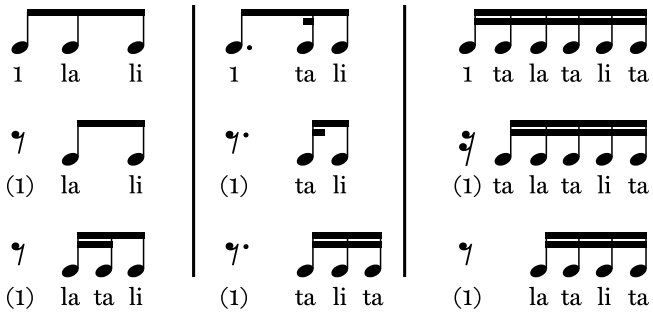
In Figure 4.4, one-beat patterns that incorporate sixteenth notes, each pattern represents a single ♩. beat unit. Learn these patterns, together with their correct beaming and counting syllables. You can vary their sound by substituting rests—at the beginning of the beat as in part (b), or elsewhere within the beat.

FIGURE 4.4: Selected ♩. beat-unit patterns with subdivisions

(a) Without rests



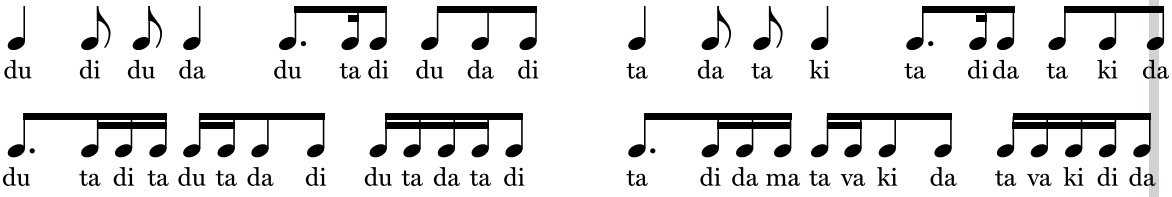
(b) With rests



Another Way

To read rhythms with the Gordon method, substitute “du da

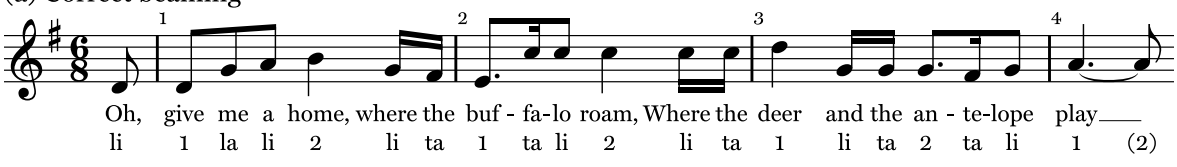
di" for "1 la li"; six sixteenths are read "du ta da ta di ta." In the "ta-ka-di-mi" system, each division and subdivision has its own syllable; ♫ is "ta ki da," and 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 is "ta va ki di da ma." Sample rhythms are shown below. If you choose not to use any syllable system, you may still find it helpful to write the number counts on the score to mark where each beat begins.

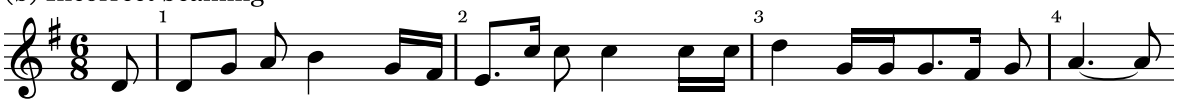


KEY CONCEPT As in simple meters, rhythms in compound meters should be beamed to reflect the beat unit. For example, write ♩ ♪♫, not ♩ ♫♫ (which implies simple triple meter).

Example 4.4 shows an American folk tune notated correctly in part (a) and incorrectly in part (b). The incorrect beaming makes the beat unit unclear and, especially in measures 1 and 2, suggests a syncopated rhythm where none exists.

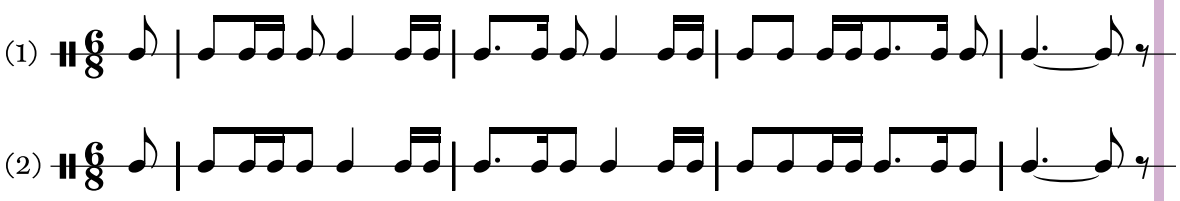
EXAMPLE 4.4: "Home on the Range," mm. 1–4

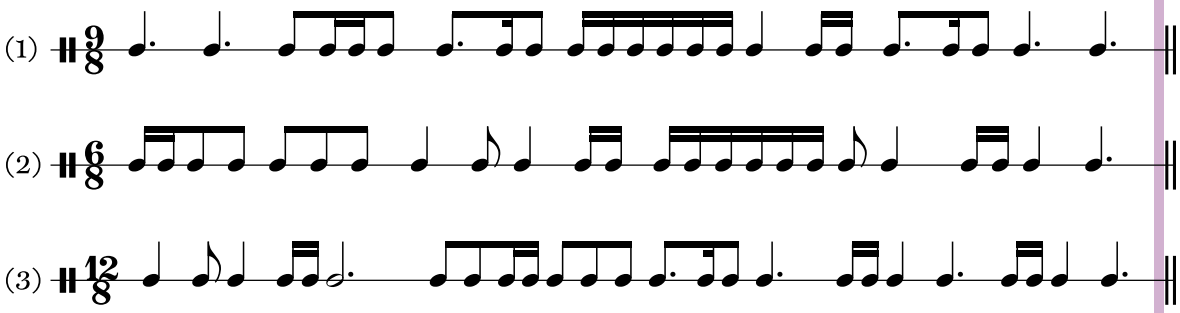
(a) Correct beaming

1 2 3 4
Oh, give me a home, where the buf - fa-lo roam, Where the deer and the an - te-lope play
li 1 la li 2 li ta 1 ta li 2 li ta 1 li ta 2 ta li 1 (2)

(b) Incorrect beaming

Likewise, when two rests appear together, choose a notation that makes the beat and its division clear: 𝄽 𝄾, not 𝄻. Sometimes 𝄽. is notated 𝄽 𝄾, and 𝄽 is notated 𝄾𝄾—both reflect the beat division.

Try it #3

A. Decide which of the two rhythms below is beamed correctly, and write the counts below it.

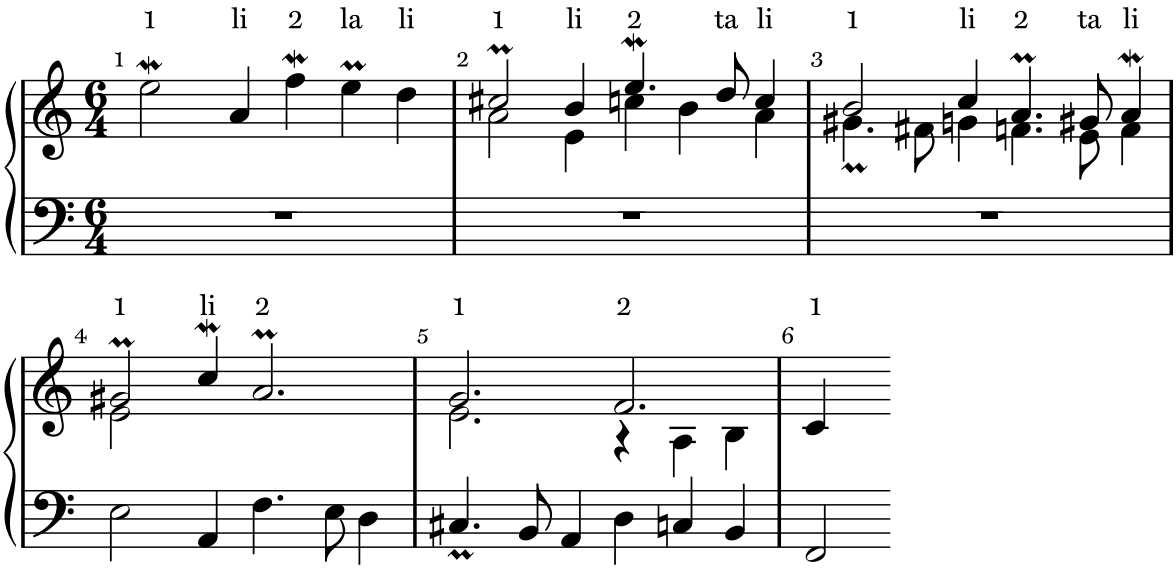
Show answers

B. For each rhythm, provide the missing bar lines that correspond with the meter signature, and write the counts below.

Show answers

Beat Units Other Than the Dotted Quarter

Not all compound-meter music is notated with a dotted-quarter beat unit. Example 4.5 shows the opening of a keyboard

piece with a 𝅗𝅥. beat unit and 𝅗𝅥 beat division. Counts for the melody (in the top voice) appear between the staves. (The symbols above and below some of the notes indicate ornaments, or embellishments, heard on the recording.)

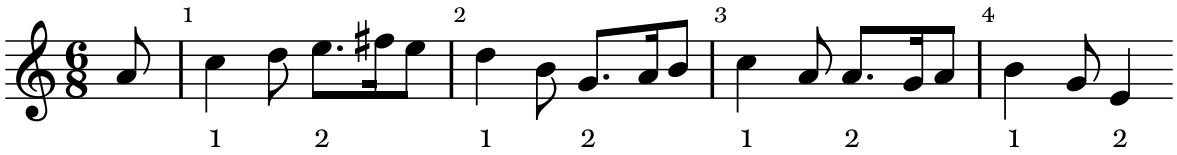
EXAMPLE 4.5: Jacquet de la Guerre, Gigue, from Suite No. 3 in A Minor, mm. 1–6



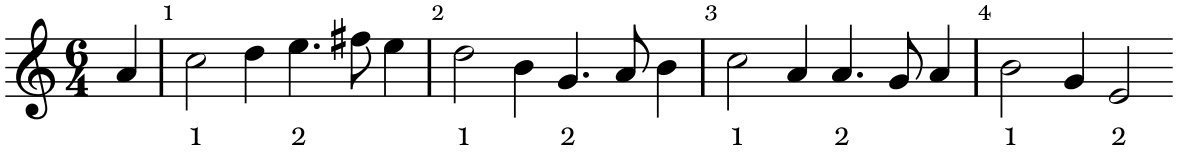
One way to develop fluency with these less familiar meters is to transcribe music with a 𝅗𝅥. beat unit to meters with 𝅗𝅥. or 𝅘𝅥𝅮. units, as in Example 4.6. If performed with the same tempo for each beat unit, all three versions would sound the same, although they look quite different.

EXAMPLE 4.6: "Greensleeves," mm. 1–4

(a) Original notation (𝅗𝅥. beat unit)



(b) Transcribed to $\frac{6}{4}$ (𝅗𝅥. beat unit)



(c) Transcribed to $\frac{6}{16}$ (𝅘𝅥𝅯. beat unit)

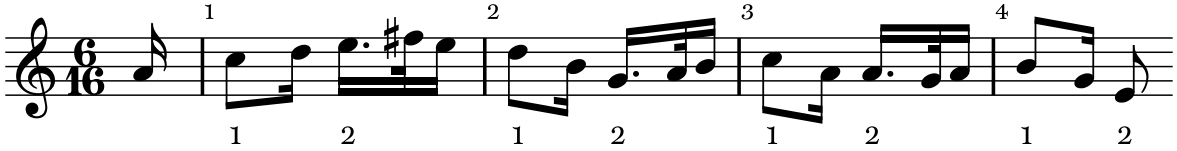
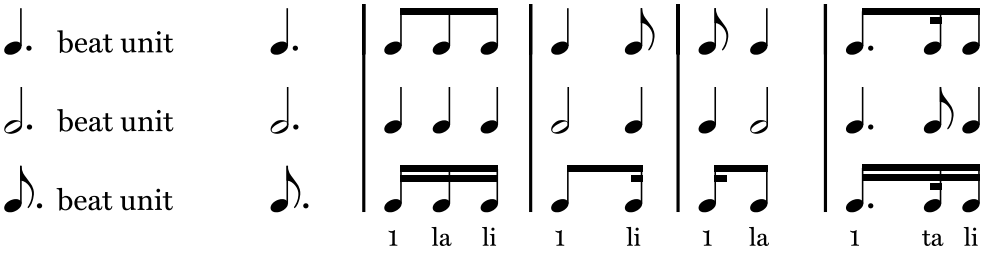


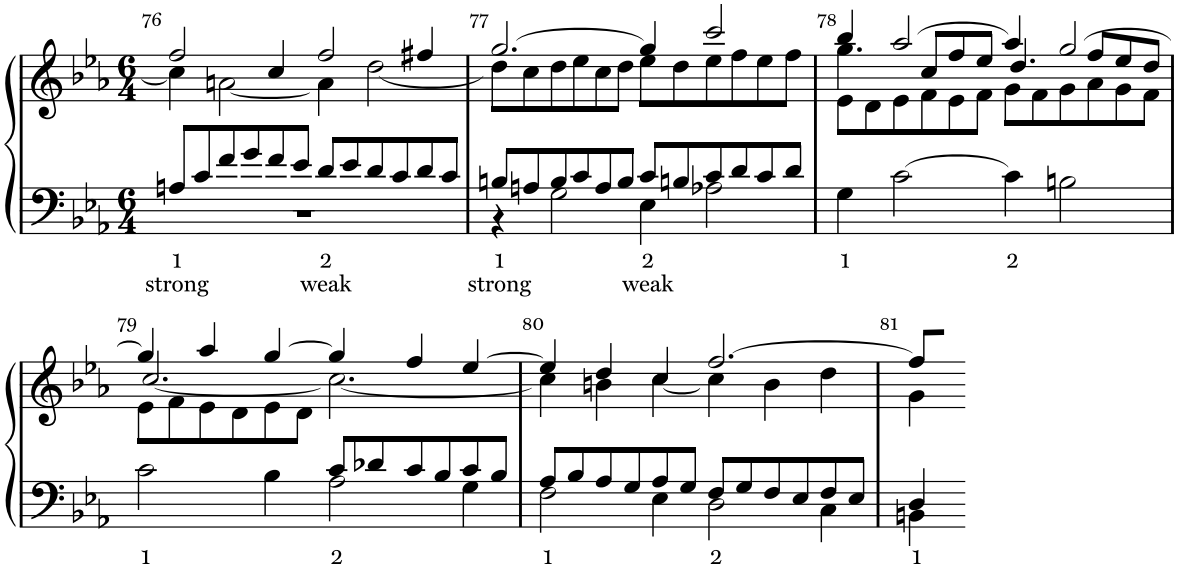
Figure 4.5 illustrates the five main one-beat patterns for compound meters written with these three beat units.

FIGURE 4.5: One-beat rhythm patterns with different beat units

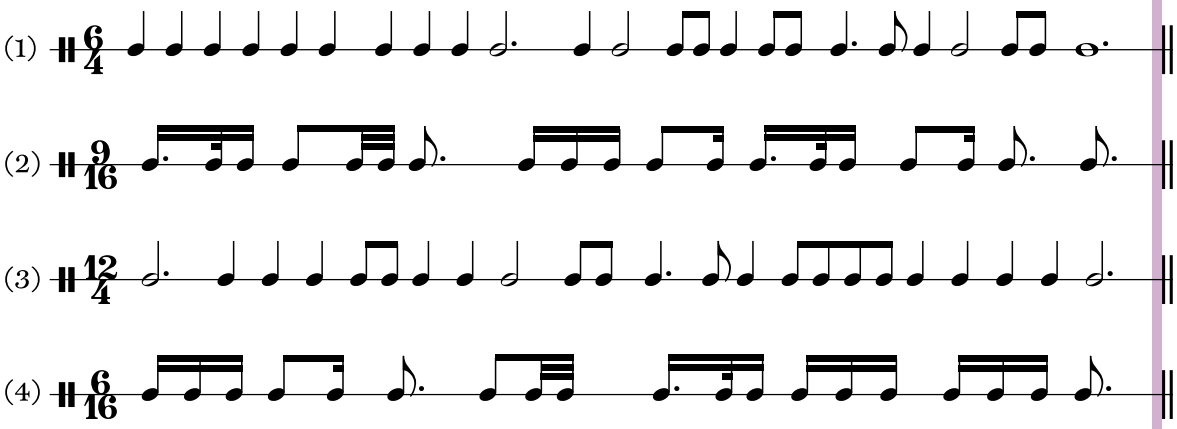


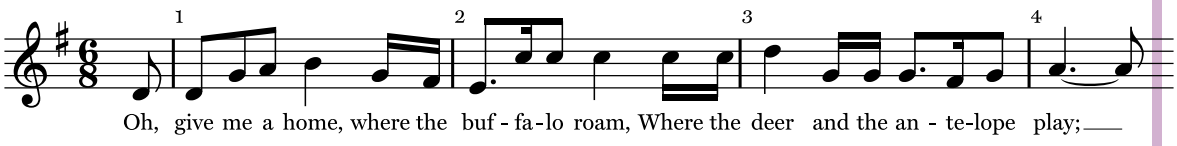
Counting compound meters with quarter-note beat divisions can prove challenging; since the quarter notes ($\frac{6}{4}$ ♩♩♩♩♩♩) are not beamed together like eighths are in $\frac{6}{8}$ meter ($\frac{6}{8}$ ♫♫), that helpful visual cue is missing. Look, for example, at measures 78–80 of Example 4.7, from Bach's *St. Anne* Fugue. If we beamed the right hand's quarter notes in groups of three to show the dotted-half

beat, that would turn them into eighths. In this example, only the beaming of the eighth notes into groups of six shows the beat unit clearly. It is left to the performer to group the rhythms mentally to reflect the proper metric accents. In this example, the strong-weak alternation occurs at the 𝅗𝅥. level (every half measure).

EXAMPLE 4.7: Bach, *St. Anne* Fugue, mm. 76–81

Try it #4

(a) For each rhythm below, provide the missing bar lines that correspond with the meter.

Show answers

(b) Write the rhythm of 'Home on the Range, (mm. 1–4) in $\frac{6}{16}$ adding the counts underneath.

Show answers

(1)

Syncopation

As in simple meters, ties and rests in compound meters can create offbeat accents, or syncopations.

KEY CONCEPT Syncopations are created in compound meters by placing

(a) ties from a weak part of a beat across a stronger part;

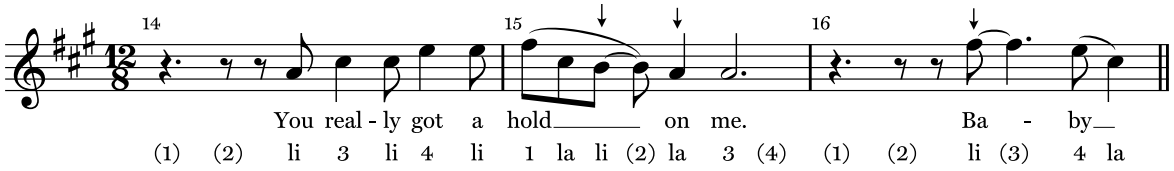
(b) an accent mark on a weak beat or the weak part of a beat;

(c) a rest on the strong part of a beat that causes a weaker part to sound accented.

Example 4.8 illustrates syncopations (marked with arrows) in the melody of "You've Really Got a Hold on Me." In measure 15, on "hold," the weaker third eighth note is tied across beat 2, delaying "on." This creates an offbeat emphasis on the second division (la) of beat 2. In measure 16, the singer enters (on "Baby") an eighth note ahead of the beat, creating an accented

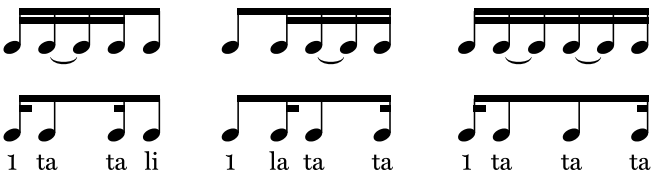
offbeat entrance—another syncopation.

EXAMPLE 4.8: Robinson, "You've Really Got a Hold on Me," mm. 14–16



Typical syncopations within the beat are given in Figure 4.6, where the dotted-quarter note is the beat unit. As here, an eighth note often substitutes for two sixteenths tied together.

FIGURE 4.6: Typical syncopations within the beat (beat unit)

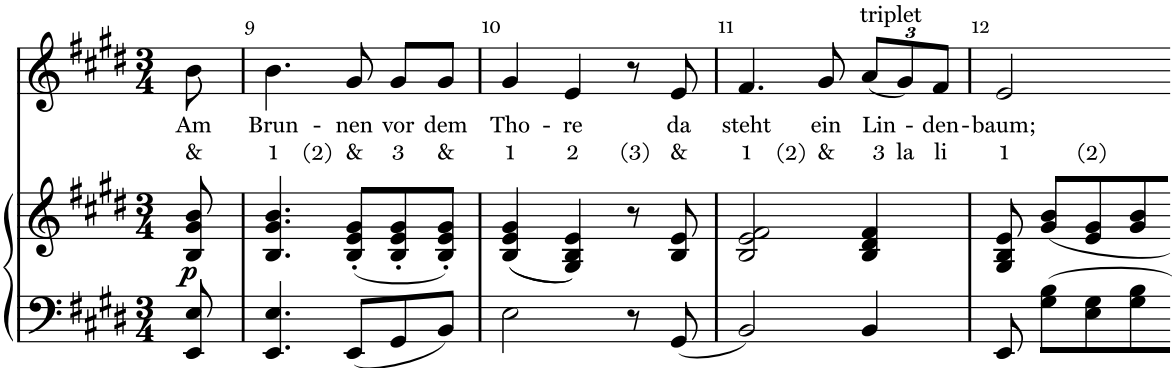


Mixing Beat Divisions and Groupings

Triplets

Listen to the excerpt from Schubert's "Der Lindenbaum" given in Example 4.9. This simple-triple melody moves primarily in quarter and eighth notes, except for the last beat of measure 11, which is divided into three eighths instead of two (indicated with a small 3 above the group).

EXAMPLE 4.9: Schubert, "Der Lindenbaum," mm. 9–12



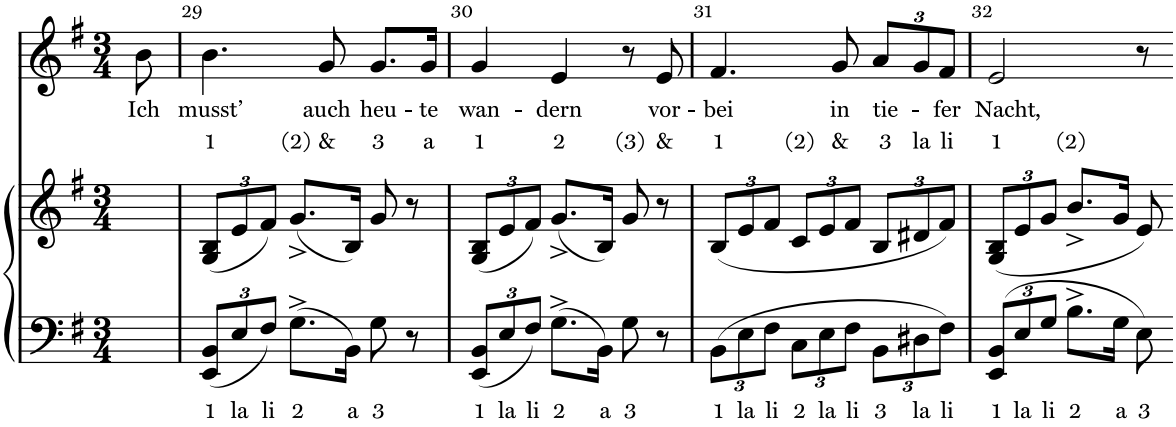
Translation: At the well in front of the gate, there stands a linden tree.

KEY CONCEPT In simple meters, the beat may occasionally be divided into three parts instead of the normal two. These beats, marked with a 3, are called triplets. Count triplets with syllables borrowed from compound meter (e.g., 1 la li).

Now compare this passage with Example 4.10, the second verse of the song. Here, Schubert develops the triplet idea by giving it to the piano accompaniment. In measures 29–30, the interplay

of the piano's triplet division on beat 1 with the ♫ rhythms (beat 2 of the piano and beat 3 of the voice) propels the music forward and provides contrast with the more tranquil first verse.

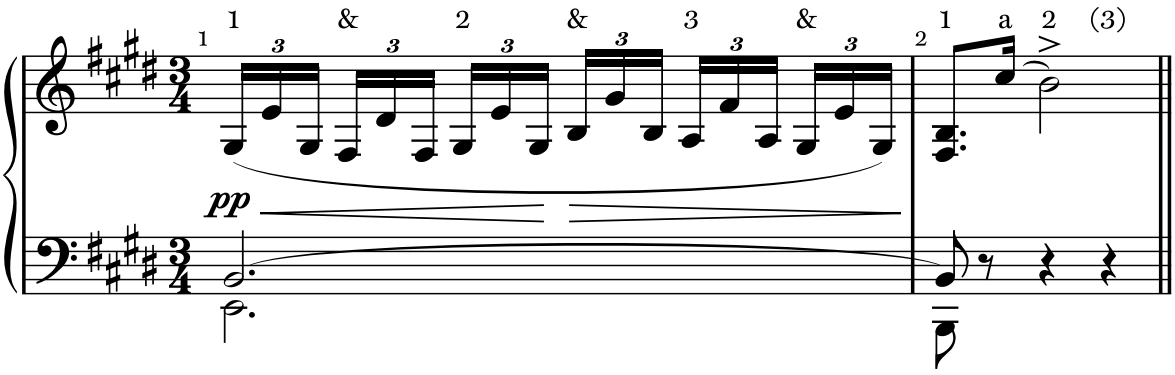
EXAMPLE 4.10: Schubert, "Der Lindenbaum," mm. 29–32


29
30
31
32
Ich musst' auch heu - te wan - dern vor - bei in tie - fer Nacht,
1 (2) & 3 a 1 2 (3) & 1 (2) & 3 la li 1 (2)
1 la li 2 a 3
1 la li 2 a 3
1 la li 2 la li 3 la li
1 la li 2 a 3

Translation: I had to travel by it again today in dead of night.

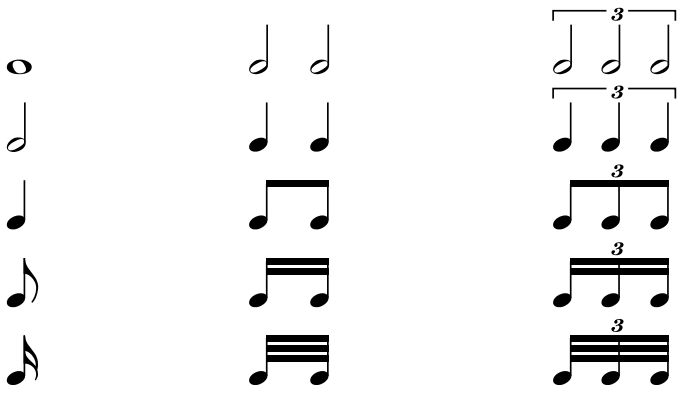
Finally, listen to the beginning of the piano introduction to this song (Example 4.11). The triplets, here written as sixteenth notes–they divide the eighth note (rather than quarter note) into threes–create a wonderful effect, depicting the rustle of the linden tree's leaves.

EXAMPLE 4.11: Schubert, "Der Lindenbaum," mm. 1-2



KEY CONCEPT When notating triplets, use the same duration values for the triplet as the duple division it replaces (see Figure 4.7). That is, an eighth-note triplet replaces two eighth notes, and a sixteenth-note triplet replaces two sixteenths.

FIGURE 4.7: Notation of triplets

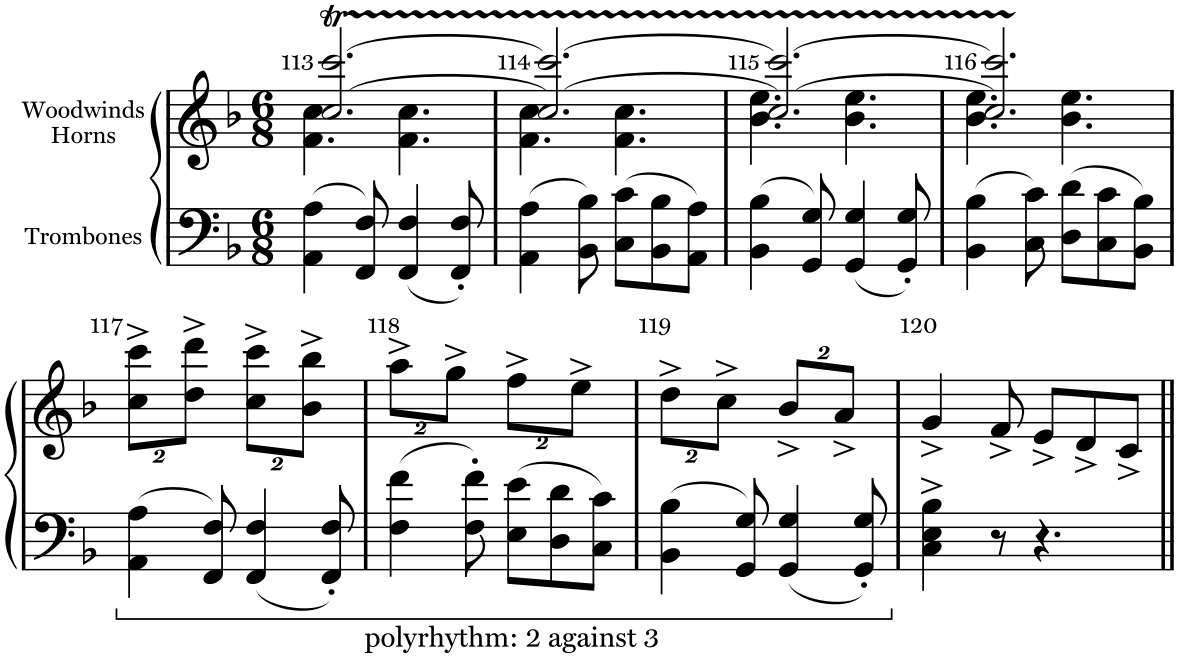


Duplets, Quadruplets, and Polyrhythm

Just as triple divisions may appear in simple meters, so may duple or quadruple divisions appear in compound meters: these are called **duplets** (2) or **quadruplets** (4). Triplets, duplets, and quadruplets are sometimes collectively called "tuplets." In compound meter, composers might set a duple subdivision of the beat against the triple subdivision, as in Example 4.12. In

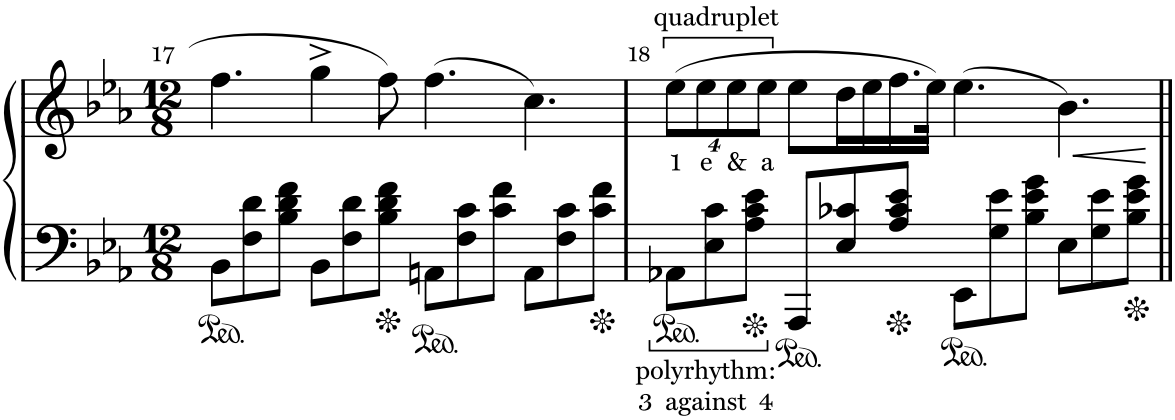
measures 117–119, the melody in 𝄋, played by the lower winds and brasses, is accompanied by duplet rhythms in the upper winds and brasses.

EXAMPLE 4.12: Holst, Second Suite for Military Band, mvt. 4, mm. 113–120 (condensed score)



As an example of a quadruplet, look at measure 18 from Chopin's Nocturne in E♭ (Example 4.13). Although the piece is in compound quadruple ($\frac{12}{8}$) meter, a group of four eighth notes appears in the right hand of measure 18, with a 4 beneath. To count the quadruplet, shift from compound-meter divisions (1 la li) to simple-meter divisions (1 e & a). This juxtaposition of two beat divisions—three (left hand) against four (right hand)—is called a **polyrhythm**.

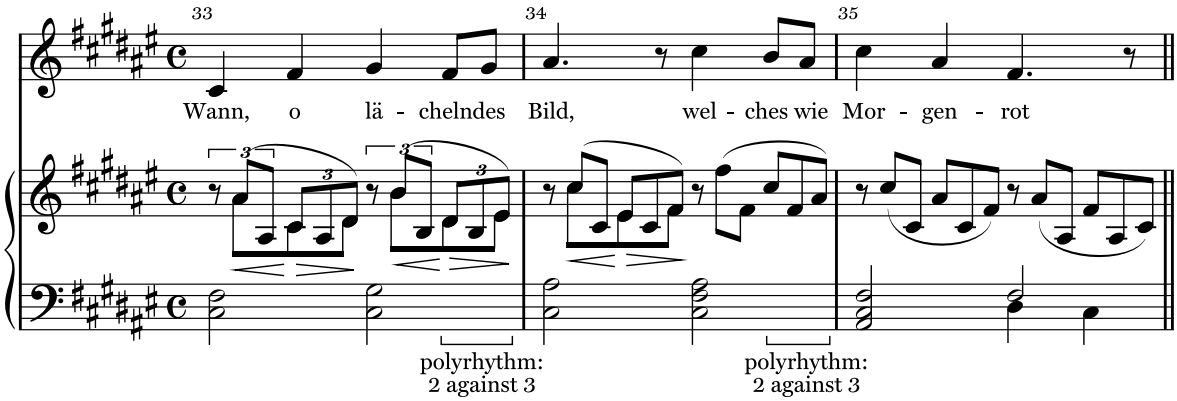
EXAMPLE 4.13: Chopin, Nocturne in E♭ Major, mm. 17–18



Other types of tuplets include quintuplets (groups of five), sextuplets (groups of six), and septuplets (groups of seven). These appear most often in Romantic-era repertoire (around 1830 to 1910), including later in this Chopin nocturne, where they mimic the freedom of virtuoso improvisation.

Another polyrhythm, one you will encounter even more often, is two against three, shown in Example 4.14 (and Example 4.12 as well). In this song, Brahms introduces triplets in the right hand of the piano, while the singer continues with eighth-note divisions of the beat (beat 4 of mm. 33 and 34). To perform such polyrhythms, a good first step is to learn the composite pattern made by merging the two rhythms. For two against three, for example, tap one rhythm in each hand to the words “nice piece of cake”: “nice” (both hands together) “piece” (hand 1) “of” (hand 2) “cake” (hand 1) “nice” (both hands), and so on; there should be equal time between “nice,” “piece,” “cake,” and the next “nice.” Hand 1 will be tapping threes and hand 2 twos. (When you have the hang of this, try tapping the rhythm of the vocal part in Example 4.14 with your right hand and the triplets of the piano’s top line with your left.)

EXAMPLE 4.14: Brahms, “Die Mainacht,” mm. 33–35



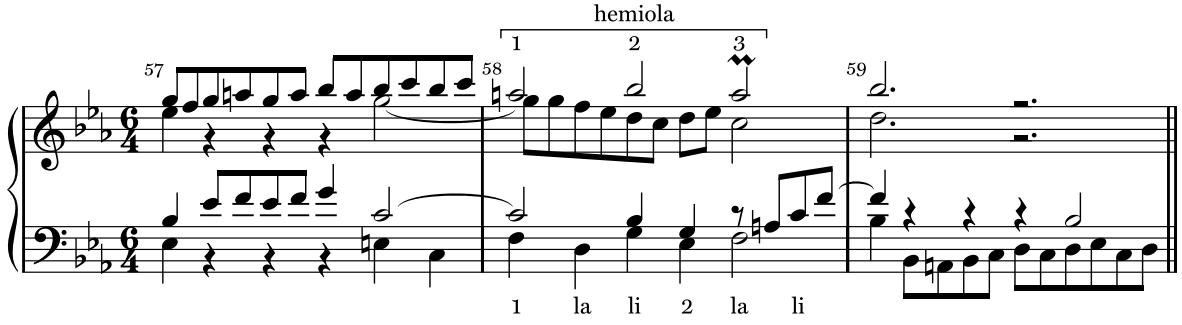
Translation: When, O smiling image, who [shines] like rosy dawn.

You can devise a similar strategy for performing three against four, taking a phrase like "pass the peanut butter": "pass," "pea,-" and "butt-" represent the triplet division of the beat, and "pass the" "-nut," and "-ter" represent the quadruple division (with equal time between those syllables).

Hemiola in Compound Meter

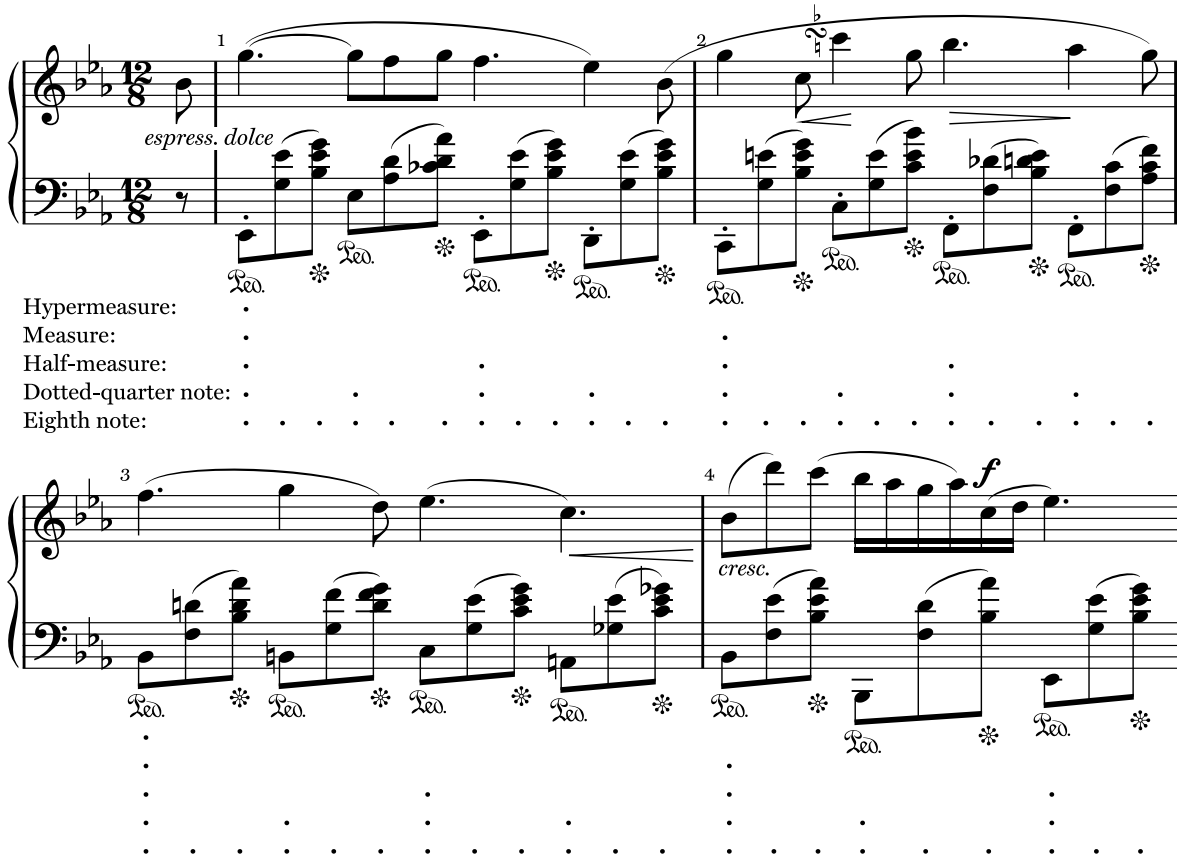
As in simple meters (Chapter 2), hemiolas in compound meters, though less common, propel the music forward toward the end of a piece or section. In Example 4.15, the normal three-part division of the beat is temporarily grouped in twos in the upper voice (m. 58). Here it is possible to hear both meters (𝅗𝅥 for the three half notes in the highest voice and in 𝅘𝅥 the other voices) continuing simultaneously for a measure and then realigning into the notated meter at measure 59.

EXAMPLE 4.15: Bach, *St. Anne* Fugue, mm. 57–59


hemiola
1 2 3
57
58
59
1 la li 2 la li

Metric Accent and Implications for Performance

Now listen to the opening of Chopin's Nocturne in E♭ (Example 4.16) to consider ways that knowledge of the metrical hierarchy might help to shape a performance. The left-hand part consists of a repetitive rhythm that sounds on every eighth note of the $\frac{12}{8}$ meter, but these eighths don't carry the same metrical weight, as the dots beneath the staff indicate. The pianist might want to bring out the lowest bass notes (E♭2, E♭2, D2, C2, etc.)—an eloquent melodic line whose pitches fall primarily on the beat—and minimize the chords on the offbeats.

EXAMPLE 4.16: Chopin, Nocturne in E♭ Major, mm. 1–4

Similarly, the pianist might want to shape the right-hand melodic line in a pattern of strong and weak beats, with stronger beats on 1 and 3. Thinking in larger units sometimes raises interesting performance questions: for example, whether to aim measure 2 toward the highest pitch, C6, or beyond it to the metrically accented B♭ 5—while paying attention at the same time to the *crescendo* and *decrescendo* marks (< >) in the score. Such questions make the interaction of analysis and performance a fascinating topic for exploration. Compare some recordings of this nocturne to hear the choices great pianists have made.

At best, rhythmic notation only approximates a truly musical performance. The performer's interpretation will usually include tempo fluctuations that speed up or slow down slightly as the work approaches an important musical goal. This type of transitory tempo fluctuation is called **rubato**, and few Romantic-era pieces are performed without it.

Did You Know?

Composers and performers from earlier eras didn't think of meter in exactly the way we do now. For example, in the 1770s, German theorist and composer Johann Philipp Kirnberger (a student of J. S. Bach) wrote that simple meters can be divided into two *or* three parts: $\frac{2}{4}$ divides two beat units into two eighth notes per beat, and $\frac{6}{8}$ (also a simple meter) divides two beat units into three eighth notes per beat. What makes both these meters "simple" for Kirnberger is that they each require one main accent, on the downbeat of the measure.

Compound meters, for Kirnberger, are made of several measures of simple meter "put together," or "compounded": for example, $\frac{4}{4}$ is two $\frac{2}{4}$ measures combined, and $\frac{12}{8}$ is two measures of $\frac{6}{8}$. These meters take an accent on beats 1 and 3. Kirnberger even describes two types of $\frac{4}{4}$: one with a strong beat only on the downbeat of the measure ("simple" $\frac{4}{4}$) and the other with accents on beats 1 and 3 ("compound" $\frac{4}{4}$).

Clearly musicians of earlier eras understood beats within the measure to belong to an implicit hierarchy of strong and weak, which affected notation choices, performance practice, and conducting. Mozart's father, Leopold, commented in *Gründliche Violinschule* (a violin manual) that $\frac{12}{8}$ is more suitable for a quick melody than $\frac{3}{8}$ because the latter "cannot be beaten quickly without moving the spectators to laughter." From his remarks, Leopold presumably conducted $\frac{12}{8}$ in four.

TERMS YOU SHOULD KNOW

anacrusis
compound duple
compound triple
compound quadruple
duplet
hemiola
metrical accent
polyrhythm
quadruplet
rubato
triplet
tuplet

QUESTIONS FOR REVIEW

1. How are compound meters distinguished from simple meters?
2. When reading a compound meter signature, how do you determine (a) the number of beats per measure and (b) the beat unit?
3. Provide the number of beats per measure and the beat unit for each of the following meter signatures: $\frac{12}{4}$, $\frac{9}{16}$, $\frac{6}{4}$.
4. What guidelines should you follow in beaming rhythms together? What makes this difficult when the dotted-half note is the beat unit?
5. How do the guidelines for metrical accent compare in simple and compound meters?
6. If possible, find a piece of music in the anthology in each of

the following meters: compound duple, compound triple, compound quadruple. Choose at least one with a beat unit other than ♩., and practice chanting its rhythm while conducting the meter.

Know It? Show It!

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5 Minor Keys and the Diatonic Modes

Outline

Parallel keys: Shared tonic

Relative keys

- Relative minor: Shared key signatures
- Finding the relative minor and major keys

Variability in the minor scale

- The "forms" of minor
- Identifying the key of a musical passage
- Hearing minor scale types
- Writing minor scales

Scale degrees in minor

The minor pentatonic scale

Modes of the diatonic collection

- The "relative" identification of modes
- The "parallel" identification of modes
- Spelling modal scales
- Twentieth-century and contemporary modal practice

Overview

We continue our study of keys and scales by writing and playing in minor keys and diatonic modes. With this knowledge, along with that of major keys, we will be able to identify keys and modes in musical works.

Repertoire

Johann Sebastian Bach
- Violin Partita No. 2 in D Minor, Chaconne
- Invention in D Minor

Béla Bartók, "In Lydian Mode," from *Mikrokosmos* (No. 37)

Arcangelo Corelli
- Trio Sonata in A Minor, Op. 4, No. 5, Allemanda
- Sonata in D Minor, Op. 4, No. 8, Preludio

"Greensleeves"

John Lennon and Paul McCartney, "Eleanor Rigby," from *Revolver*

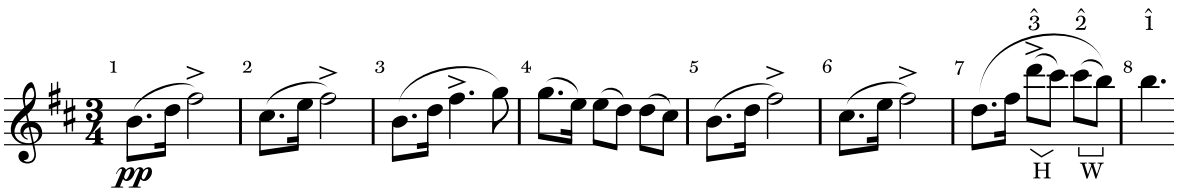
"Old Joe Clark"

Franz Schubert
- "Der Lindenbaum" ("The Linden Tree"), from *Winterreise* (*Winter Journey*)
- Waltz in B Minor, Op. 18, No. 6

"Wayfaring Stranger"

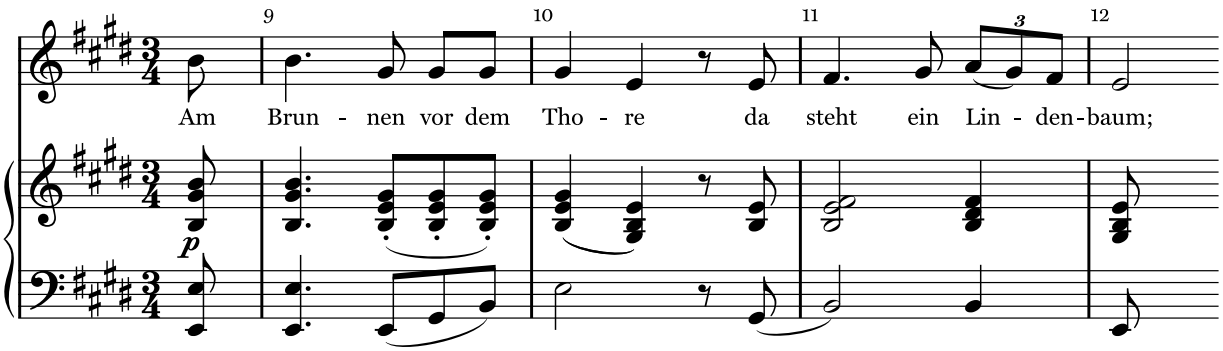
Parallel Keys: Shared Tonic

If all music were composed in major keys, the palette of musical colors would be severely limited. Listen, for example, to the expressive qualities of the Schubert melody shown in Example 5.1. This melody begins on B and ends with the familiar $\hat{3}$–$\hat{2}$–$\hat{1}$ pattern leading to B; the key is B minor. Its sound is different from a major-key melody, in part because the whole- and half-step arrangement differs from major. The $\hat{3}$–$\hat{2}$–$\hat{1}$ ending of this minor melody, for example, descends by half then whole step, in contrast to two whole steps in major. We begin our study of minor keys by comparing a minor key with the major key that begins on the same note, a relationship called parallel minor and major.

EXAMPLE 5.1: Schubert, Waltz in B Minor, mm. 1–8 (melody only)

Listen to another work by Schubert, his now-familiar song "Der Lindenbaum," specifically the passages shown in Examples 5.2a and 5.3a. Part (b) in each example gives a portion of the scale—the pentachord from $\hat{1}$ to $\hat{5}$—that corresponds with the passage's melody pitches.

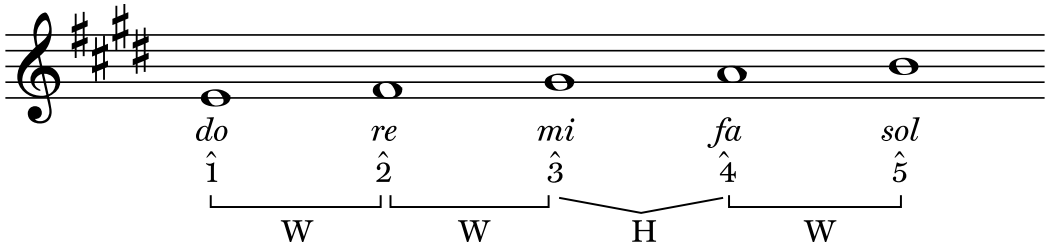
EXAMPLE 5.2: Schubert, "Der Lindenbaum," mm. 9–12

(a) Vocal line with piano accompaniment



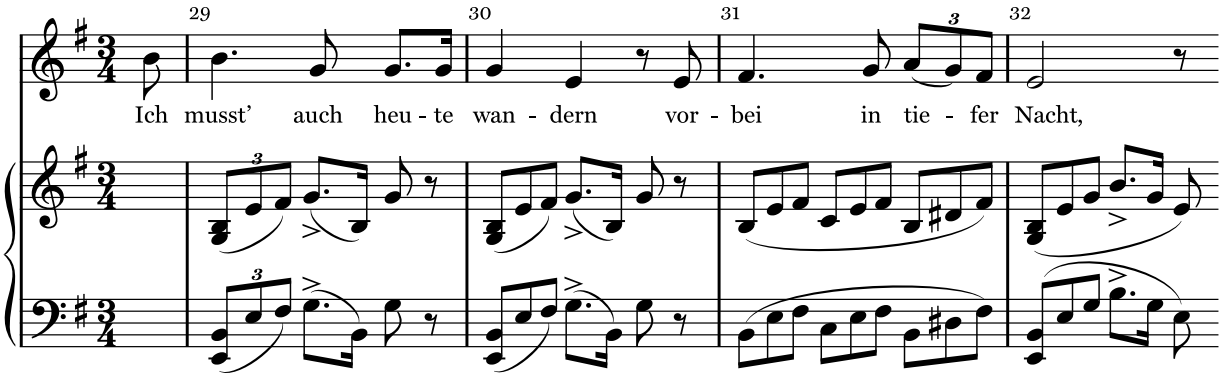
Translation: At the well in front of the gate, there stands a linden tree.

(b) Major pentachord: Scale degrees $\hat{1}$ to $\hat{5}$ from the vocal line



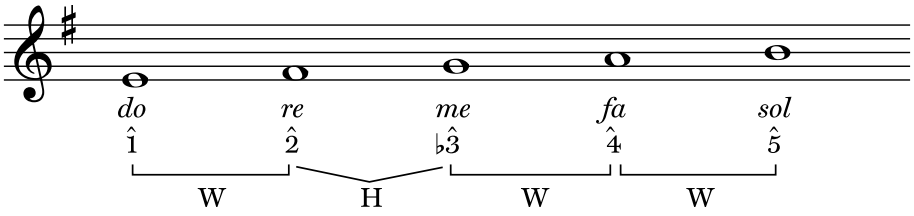
EXAMPLE 5.3: Schubert, "Der Lindenbaum," mm. 29–32

(a) Vocal line with piano accompaniment



Translation: I had to travel by it again today in dead of night

(b) Minor pentachord: Scale degrees $\hat{1}$ to $\hat{5}$ from the vocal line



The two passages are written in **parallel keys**: E major and E minor. Parallel keys share the same tonic, but a different key signature and different arrangement of whole and half steps. The first five scale degrees of these keys differ by only one note: $\hat{3}$ (*mi*) in major is $\flat\hat{3}$ (*me*) in minor.

- The major pentachord is sung as *do–re–mi–fa–sol* and written $\hat{1}$–$\hat{2}$–$\hat{3}$–$\hat{4}$–$\hat{5}$.
- The minor pentachord is sung as *do–re–me–fa–sol* and written as $\hat{1}$–$\hat{2}$–$\flat\hat{3}$–$\hat{4}$–$\hat{5}$.

We write the third scale degree of the minor pentachord with a flat sign ($\flat\hat{3}$) even when (as in E minor) there is no flat in the key signature or next to the note; the $\flat$ symbol simply indicates that the third scale degree has been lowered. In some keys (as here), the correct spelling of $\flat\hat{3}$ will need no accidental at all.

KEY CONCEPT

- Parallel keys share the same tonic.
- Parallel-key pentachords share four scale degrees ($\hat{1}$, $\hat{2}$, $\hat{4}$, and $\hat{5}$).
- The third scale degree of the minor pentachord is a half step lower than in the major pentachord: $\flat\hat{3}$ (*me*) instead of $\hat{3}$ (*mi*).
- You could also think of the major and minor pentachords in terms of their whole and half steps: W–W–H–W for the major pentachord and W–H–W–W for the minor.

Parallel keys often appear within a single piece or movement, as in “Der Lindenbaum,” to set a different mood. In this song, the minor-key passage reflects a change in the text from daytime to a foreboding “dead of night.” Parallel keys might also be used for different variations in a theme-and-variations piece or for separate movements in a larger work.

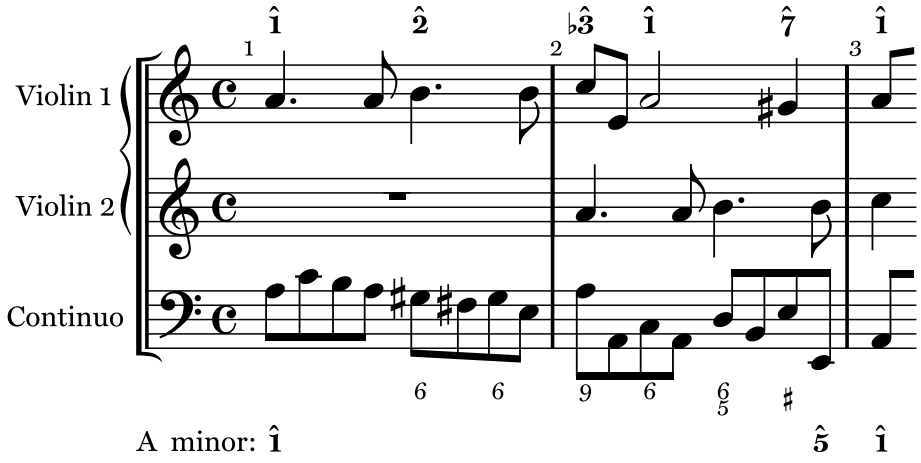
Relative Keys

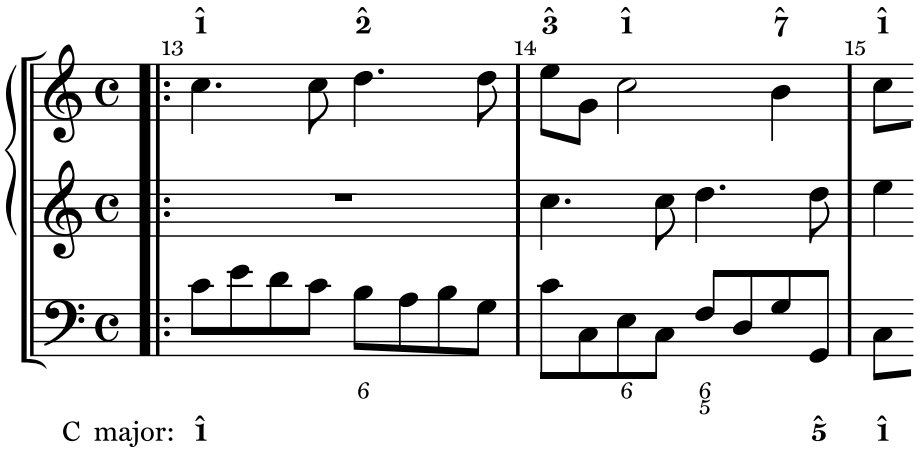
Relative Minor: Shared Key Signatures

Now listen to two brief passages from Corelli's Allemanda, while looking at the score excerpts in Example 5.4. Both passages share the same key signature (no flats or sharps)—yet part (a) is in A minor and part (b) in C major. Scale degrees written above the melody and below the bass line reveal familiar patterns that help establish these keys: $\hat{1}$–$\hat{2}$–$\hat{3}$ (or $\flat\hat{3}$), $\hat{7}$–$\hat{1}$, and $\hat{5}$–$\hat{1}$. These excerpts are in **relative keys**: they share a key signature but have different tonics. By moving between relative (or parallel) keys in a piece, a composer is able to vary the music's color and mood, heightening musical interest.

KEY CONCEPT Relative keys have different tonics, but share the same key signature and diatonic collection.

EXAMPLE 5.4: Corelli, Allemanda, from Trio Sonata in A Minor

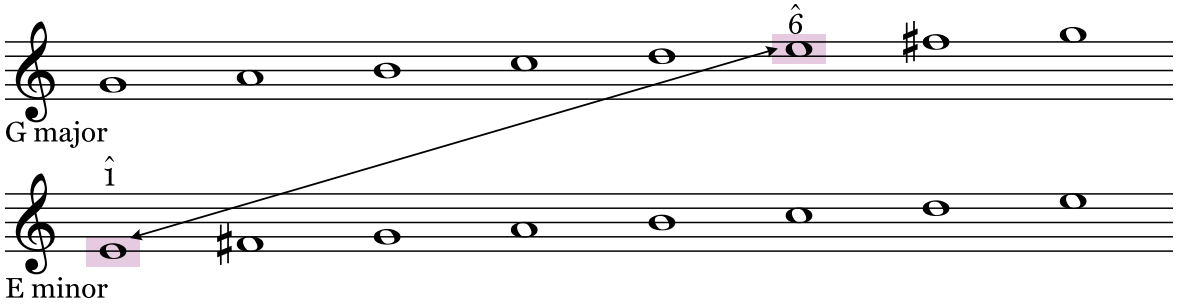
(a) Mm. 1–3

(b) Mm. 13–15



Finding the Relative Minor and Major Keys

Example 5.5 compares the scales for two relative keys: G major and E minor. As you can see, the relative minor scale is made from the same pitch-class collection as its relative major, but it begins on scale degree 6̂ of the major key.

EXAMPLE 5.5: Finding the relative minor key



KEY CONCEPT To find the relative minor of any major key, identify scale degree 6̂ of the major scale: that pitch is the tonic of the relative minor. (Shortcut: Count down three half steps from the major-key tonic.)

If you are counting half steps, be careful to choose the correct spelling: it should conform to the key signature of the major key *and* span three different letter names. The relative minor of A major, for example, is F♯ minor (A-G-F), not G♭ minor.

Try it #1

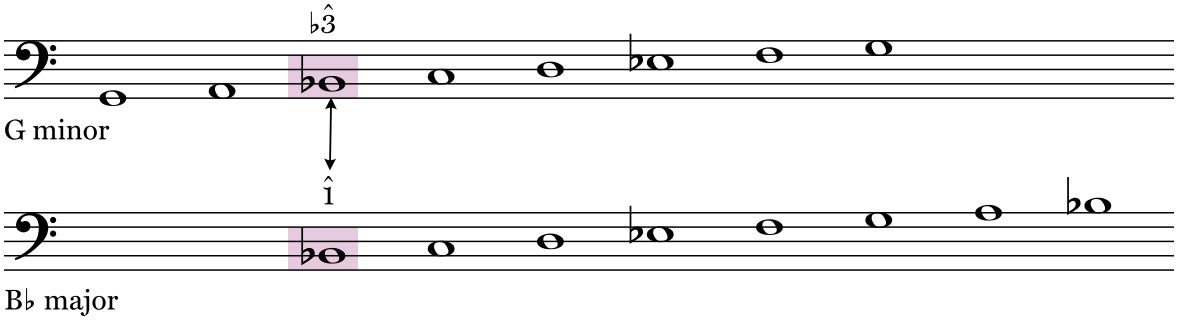
Given the major key below, supply the name of the relative minor.

Show answers

KEY	RELATIVE MINOR	KEY	RELATIVE MINOR
E major	**C♯ minor**	A♭ major	
D major		E♭ major	
B major		F major	

KEY CONCEPT To find the relative major of any minor key, identify scale degree ♭$\hat{3}$ of the minor scale: that pitch is the tonic of the relative major (Example 5.6). (Shortcut: Count up three half steps from the minor-key tonic.)

EXAMPLE 5.6: Finding the relative major key



With the shortcut, again, remember to choose a spelling that spans three letter names. The relative major of G minor is B♭ (not A♯) major (G-A-B).

Try it #2

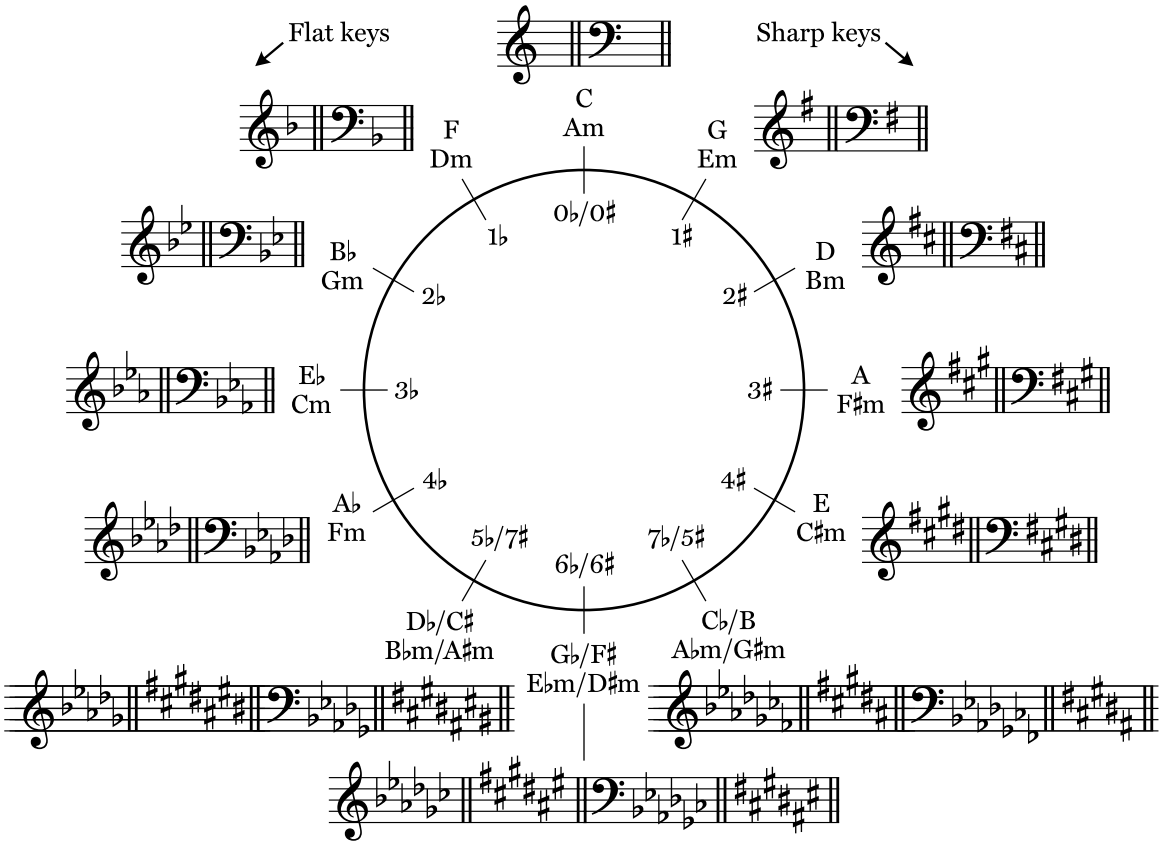
Given the minor key below, supply the name of the relative major.

Show answers

KEY	RELATIVE MAJOR	KEY	RELATIVE MAJOR
A minor	**C major**	C♯ minor	
G♯ minor		F minor	
C minor		E minor	
D minor		B♭ minor	

For speed and facility in sight-reading and analysis, memorize the minor key signatures as well as the major. The circle of fifths in Figure 5.1, with the relative keys added, may help you. If you compare parallel keys in the figure, you will see that they differ by three accidentals: for example, B major (five sharps) and B minor (two sharps). You could think of this as three "steps" counterclockwise around the circle of fifths: D major (two sharps) is three steps away from D minor (one flat).

FIGURE 5.1: Circle of fifths with minor keys added



Try it #3

Given the key signature below, supply the name of the minor key.

Show answers

KEY SIGNATURE	MINOR KEY	KEY SIGNATURE	MINOR KEY
	G♯ minor		

SUMMARY

Parallel keys

- share the same tonic, $\hat{1}$ (as well as $\hat{2}$, $\hat{4}$, and $\hat{5}$);
- have key signatures that differ by three accidentals.

Relative keys

- share the same key signature and diatonic collection;
- have tonics that differ by three half steps (and three letter names).

Try it #4

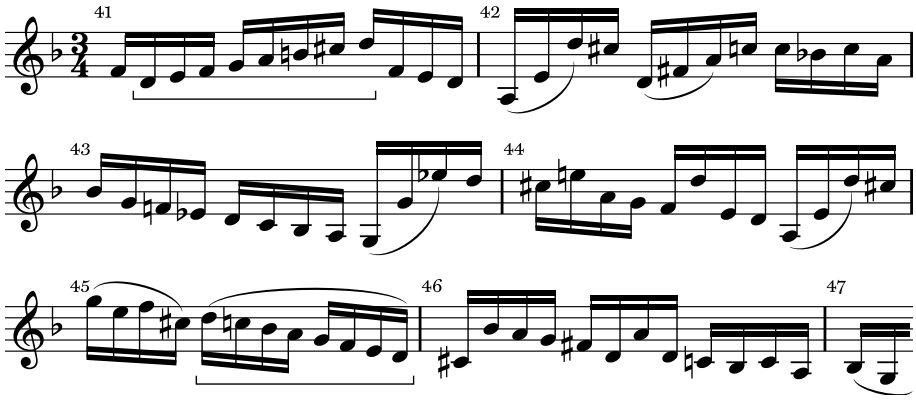
Provide key signatures (the number of sharps or flats) for these parallel keys:

Show answers

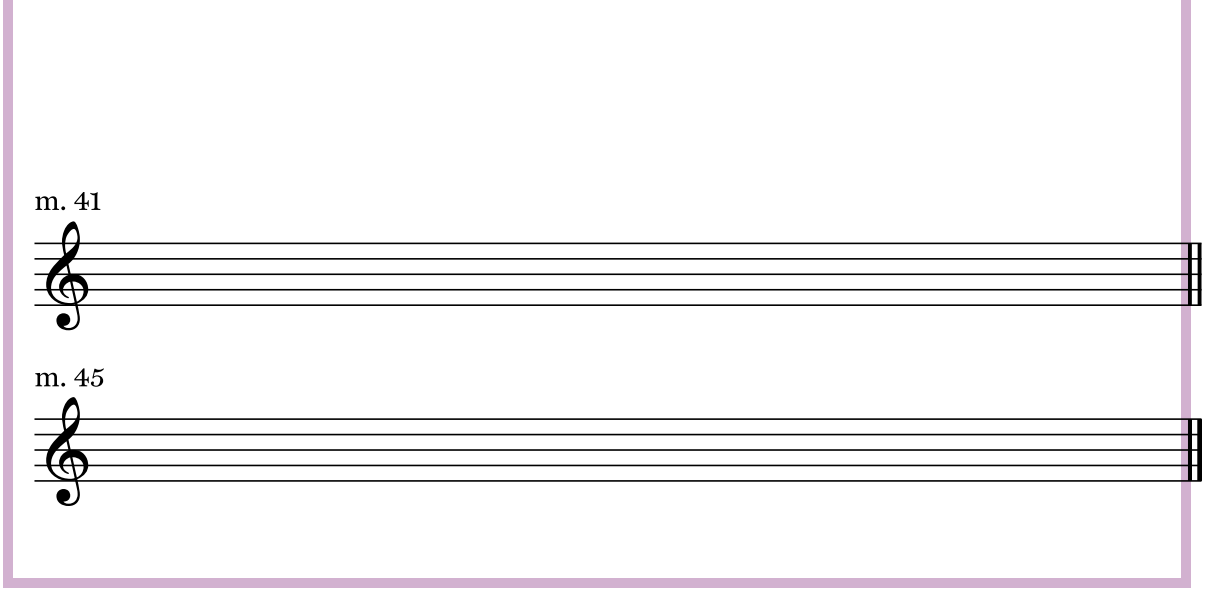
	SIGNATURES			SIGNATURES	
B major–B minor	5♯	– 2♯	F♯ major–F♯ minor		–
B♭ major–B♭ minor		–	A major–A minor		–
C major–C minor		–	C♯ major–C♯ minor		–

Variability in the Minor Scale

While the minor pentachord is straightforward, the upper tetrachord (5̂ up to 1̂) of a minor key offers a variety of chromatic inflections, and expressive possibilities to composers. Listen to Example 5.7, a passage from Bach's Chaconne in D Minor.

EXAMPLE 5.7: Bach, Chaconne in D Minor, mm. 41–47

Try it #5

On the staff below, write the scales bracketed in measures 41 and 45. Add all accidentals, including the B♭ of the key signature if needed. How do the pitch collections differ?

Show answers

The bracketed scales are both D minor; they share the same minor pentachord (D–E–F–G–A). But the upper tetrachords differ. Sing or play the ascending A–B♮–C♯–D from measure 41 and the descending D–C♮–B♭–A from measure 45. This variability in scale degrees is typical in minor-key compositions: you may find ♭$\hat{6}$ *or* $\hat{6}$ (B♭ or B♮ in D minor), as well as ♭$\hat{7}$ *or* $\hat{7}$ (C♮ or C♯).

In musical contexts, as in Bach's Chaconne, rising lines are usually associated with the raised forms of $\hat{6}$ and $\hat{7}$: B♮–C♯ in measure 41. These pitches follow the tendency of the upward line toward the tonic. The A–B♮–C♯–D tetrachord is sung to the same syllables as in the parallel major, *sol–la–ti–do*, and written as scale degrees the same way as well: $\hat{5}$–$\hat{6}$–$\hat{7}$–$\hat{1}$.

Falling lines, on the other hand, are usually associated with ♭$\hat{6}$ and ♭$\hat{7}$: C♮–B♭ in measure 45. The lowered pitches here follow the tendency of the line to descend toward the tonic. The descending D–C♮–B♭–A tetrachord is sung with the syllables *do–te–le–sol* and written $\hat{1}$–♭$\hat{7}$–♭$\hat{6}$–$\hat{5}$ (even if the actual pitches are written without a flat). Think of "flat" as meaning "lowered" from the parallel major.

The "Forms" of Minor

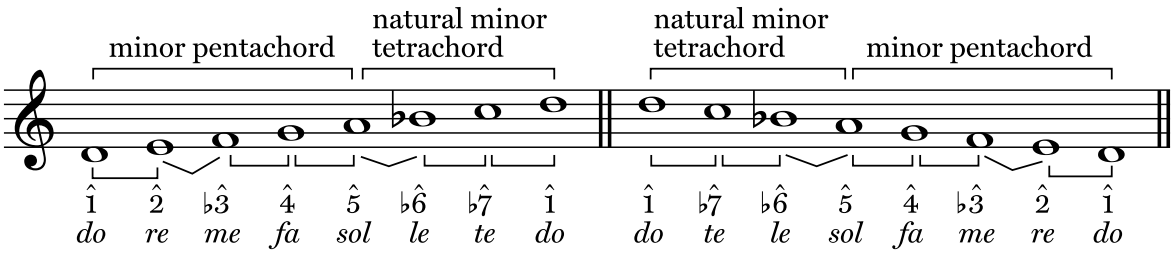
Because of this variability in the upper tetrachord, musicians distinguish between different "forms" of the minor scale:

natural, harmonic, and melodic minor. These are shown in Example 5.8.

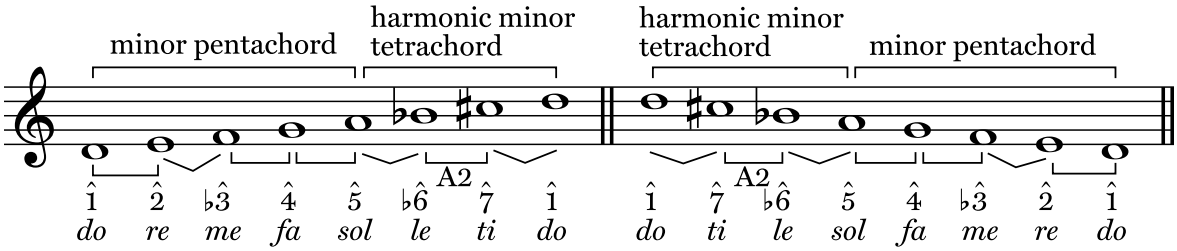
- **Natural minor** (part a) is the scale whose accidentals exactly match the key signature of the relative major.
- **Harmonic minor** (part b) raises the seventh scale degree from ♭$\hat{7}$ to $\hat{7}$ to create a leading tone. This scale has a distinctive sound, because the distance between ♭$\hat{6}$ and $\hat{7}$—here, B♭ to C♯—is larger than a whole step: it is an **augmented second** (A2), equivalent to a step and a half.
- **Melodic minor** (part c) differs in its ascending and descending forms. Ascending, the sixth and seventh scale degrees are raised, corresponding exactly to the major scale. Descending, melodic minor is identical to natural minor, with ♭$\hat{6}$ and ♭$\hat{7}$.

EXAMPLE 5.8: Forms of the D minor scale

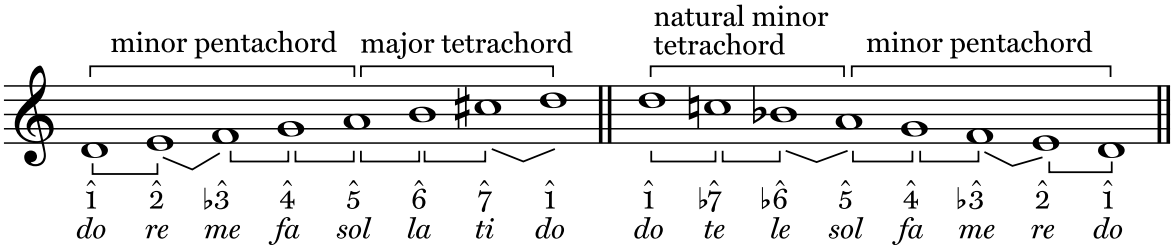
(a) Natural minor scale


minor pentachord
natural minor tetrachord
natural minor tetrachord
minor pentachord
1 2 ♭3 4 5 ♭6 ♭7 1
do re me fa sol le te do
1 ♭7 ♭6 5 4 ♭3 2 1
do te le sol fa me re do

(b) Harmonic minor scale


minor pentachord
harmonic minor tetrachord
harmonic minor tetrachord
minor pentachord
A2
A2
1 2 ♭3 4 5 ♭6 7 1
do re me fa sol le ti do
1 7 ♭6 5 4 ♭3 2 1
do ti le sol fa me re do

(c) Melodic minor scale


minor pentachord
major tetrachord
natural minor tetrachord
minor pentachord
1 2 ♭3 4 5 6 7 1
do re me fa sol la ti do
1 ♭7 ♭6 5 4 ♭3 2 1
do te le sol fa me re do

Another Way

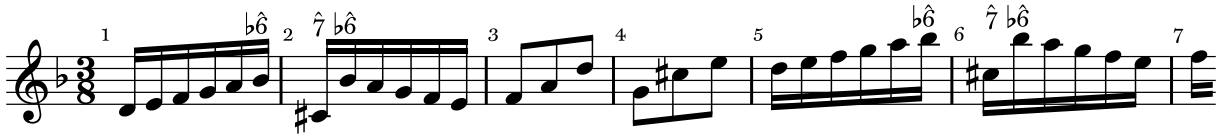
You can form any of these scales by combining a minor pentachord with one of three different upper tetrachords, also marked in Example 5.8:

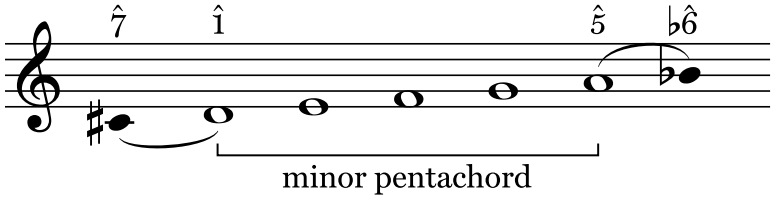
- the natural minor tetrachord, H–W–W (to make natural minor),
- the harmonic minor tetrachord, H–A2–H (to make harmonic minor), or
- the major tetrachord, W–W–H (to make ascending melodic minor).

One of the distinctive aural features of the natural minor scale is the absence of a leading tone, which leaves a whole step between ♭$\hat{7}$ and $\hat{1}$ (although composers will usually raise ♭$\hat{7}$ to $\hat{7}$ in a piece). In harmonic minor, the leading tone's presence poses a

melodic problem: the distinctive sound of the A2 from ♭6̂ to 7̂ stands out from the surrounding whole- and half-step motion. One way to solve this problem is to place the leading tone in the accompanying harmony—a reason for the harmonic minor scale's name. Another solution is shown in Bach's Invention in D Minor (mm. 1–2 in Example 5.9a). When the entire harmonic minor scale appears in a melody, it often extends from 7̂ below the tonic to ♭6̂ above (part b). This *embellished* minor pentachord features half-step motion at both extremes: above the dominant, 5̂–♭6̂–5̂, and below the tonic, 1̂–7̂–1̂.

EXAMPLE 5.9: Bach, Invention in D Minor

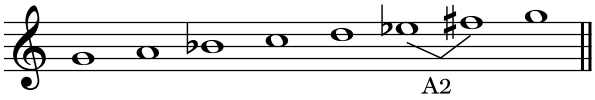
(a) Mm. 1–7 (right hand)

(b) Embellished D minor pentachord

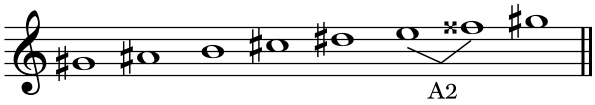


KEY CONCEPT In harmonic minor scales, accidentals may be mixed (e.g., flats and sharps together, as in Example 5.10a), and double sharps may be necessary (part b).

EXAMPLE 5.10: Spelling harmonic minor scales

(a) Mixed accidentals in G harmonic minor



(b) Double sharp in G♯ harmonic minor

Identifying the Key of a Musical Passage

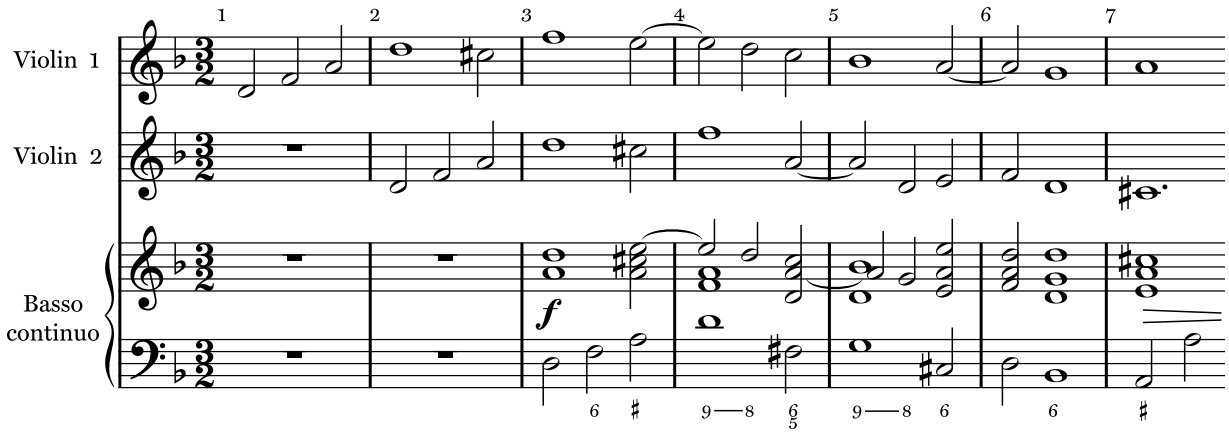
Because the upper tetrachord is variable, minor-key music often features accidentals—especially to raise ♭$\hat{7}$ to make the leading tone. Keep this in mind when identifying the key of a piece or passage.

KEY CONCEPT To identify a key:

1. Look at the key signature, and think of *both* the major and minor key associated with it.
2. Look at the beginning and end of the melody and bass line for motion to and from the major-key or minor-key tonic ($\hat{1}$).
3. Look for accidentals that might indicate the leading tone in minor.

In Example 5.11, the key signature of one flat suggests either F major or D minor. But when you see that the violins and bass line all begin on D, and the only accidental in the excerpt is C♯, the leading tone of D minor, you can safely assume the key is D minor. (The key itself is called D minor, not D harmonic minor.)

EXAMPLE 5.11: Corelli, Preludio, from Sonata in D Minor, mm. 1–7



Try it #6

Look at the anthology score for each of the following pieces to determine its major or minor key. Then listen to the beginning of each work to check your answer by ear.

Show answers

KEY

(a) Joplin, “Pine Apple Rag” _____

(b) Mozart, Dies irae, from *Requiem* _____

(c) “Chartres” (hymn) _____

(d) C. Schumann, “Liebst du um Schönheit” _____

(e) Schubert, “Du bist die Ruh” _____

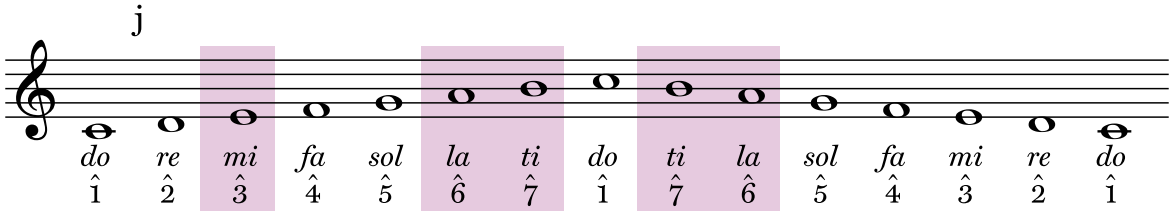
Hearing Minor Scale Types

Example 5.12 shows the C major scale and all three forms of the C minor scale. To distinguish between scale types by ear:

- Listen first for the quality of the third scale degree ($\hat{3}$ vs. $\flat\hat{3}$, *mi* vs. *me*).
- If minor, then listen for a leading tone: natural minor and descending melodic minor have no leading tone, but rather a whole step from $\flat\hat{7}$ to $\hat{1}$ (*te–do*). In harmonic minor, you hear the distinctive A2 approach to its leading tone ($\flat\hat{6}$–$\hat{7}$, *le–ti*).
- If you hear $\hat{6}$–$\hat{7}$ (*la–ti*), the same as major, the scale is ascending melodic minor.

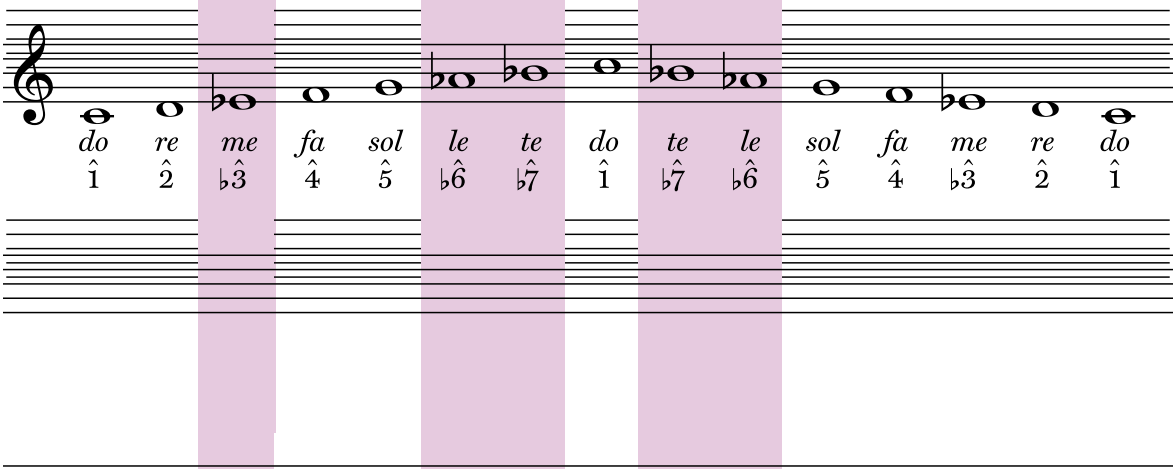
EXAMPLE 5.12: Scales beginning on C

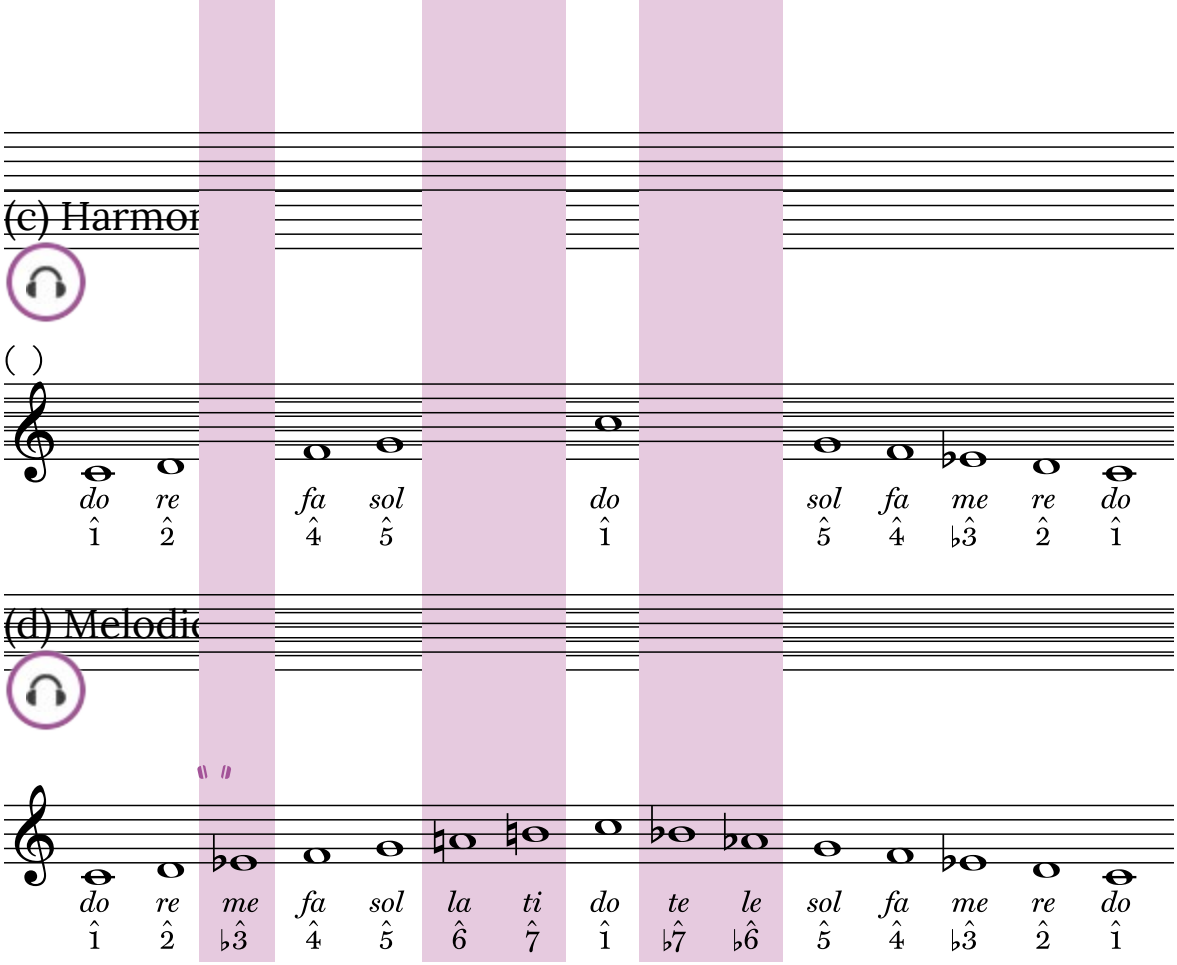
(a) C major scale



C minor sc

(b) Natural





Writing Minor Scales

When writing minor scales, the relative-major key signature provides a good starting point; be sure you have memorized these.

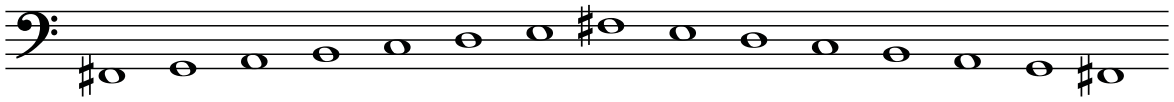
(a) Begin your minor scale by writing note heads from tonic to tonic, as in Example 5.13a.

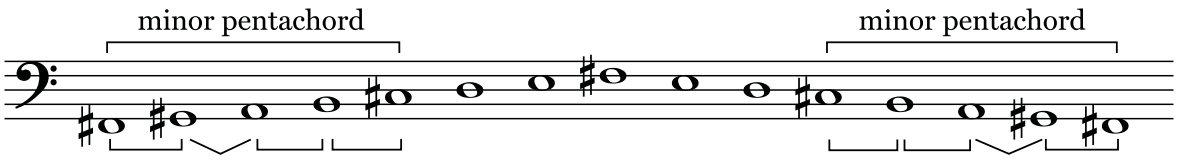
(b) Count up three half steps from the tonic, spanning three letter names, to get the relative major of F♯ minor: A major, three sharps. Add the appropriate accidentals from that key signature, and you have completed the natural minor scale (parts b and c).

(c) Add further accidentals as needed: raise ♭$\hat{7}$ to $\hat{7}$ for harmonic minor (part d).

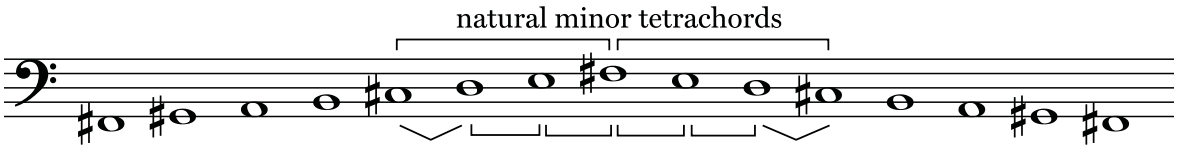
(d) Raise ♭$\hat{6}$ and ♭$\hat{7}$ to $\hat{6}$ and $\hat{7}$ for ascending melodic minor. Descending melodic minor is the same as natural. Remember that ♭$\hat{6}$ and ♭$\hat{7}$ may be written with naturals (part e).

EXAMPLE 5.13: Writing F♯ minor scales

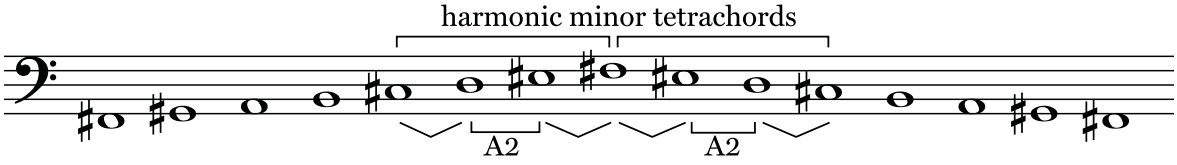
(a) Note heads F♯ to F♯ and back

(b) Minor pentachord



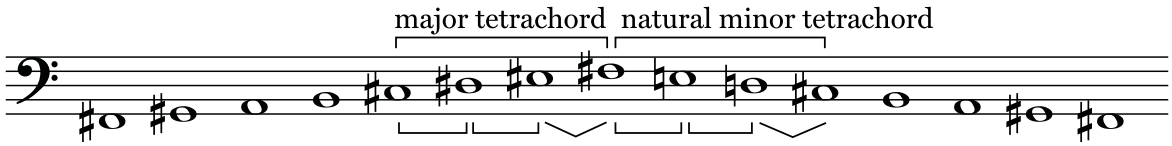
(c) Natural minor



(d) Harmonic minor



(e) Melodic minor



Another Way

You may prefer to write the minor scale beginning with the minor pentachord, then vary the type of tetrachord.

(a) Write pitches on the staff from tonic to tonic, ascending and descending.

(b) Add accidentals to make the minor pentachord, W–H–W–W (ascending and descending).

(c) For natural minor, add accidentals to create a natural minor tetrachord (H–W–W) on the upper part of the scale, both ascending and descending.

(d) For harmonic minor, add accidentals to create a harmonic minor tetrachord (H–A2–H), ascending and descending.

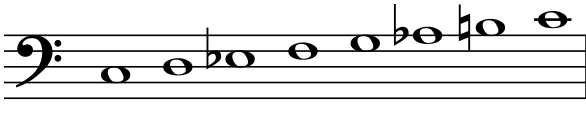
(e) For melodic minor, use the major tetrachord (W–W–H) ascending; descending is the same as natural minor.

Try it #7

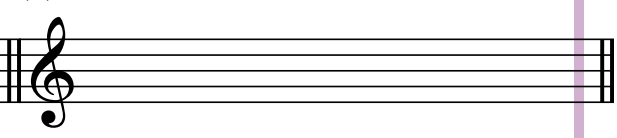
Write, then play, the ascending forms of the minor scales below, paying special attention to the spelling of the upper tetrachord.

Show answers

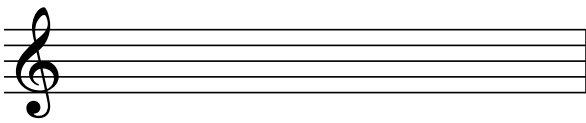
(a) C harmonic minor



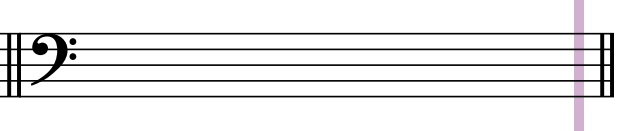
(b) B♭ melodic minor



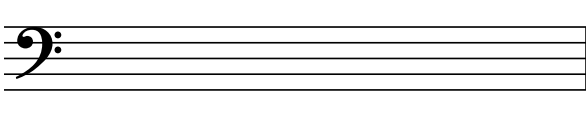
(c) F melodic minor



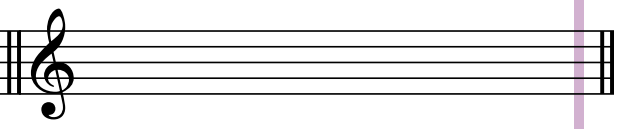
(d) G♯ melodic minor



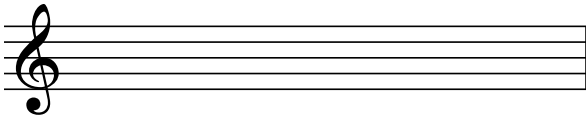
(e) B harmonic minor



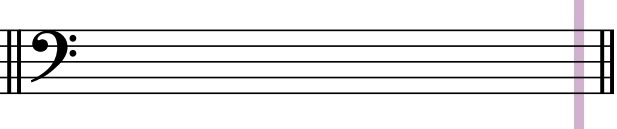
(f) C♯ melodic minor



(g) F♯ harmonic minor



(h) E harmonic minor



SUMMARY

Natural minor: Same key signature as the relative major, no additional accidentals.

Harmonic minor: Same key signature as the relative major, but raise ♭$\hat{7}$ a half step to $\hat{7}$.

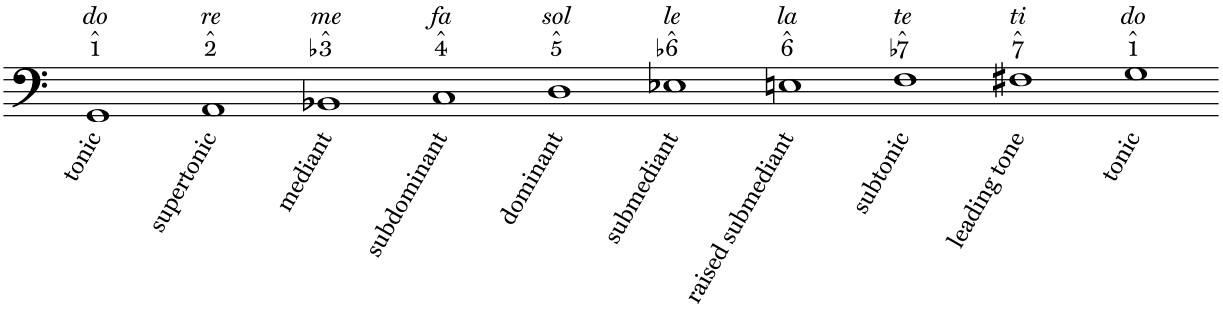
Melodic minor, ascending: Same key signature as the relative major, but raise ♭$\hat{6}$ and ♭$\hat{7}$ a half step to $\hat{6}$ and $\hat{7}$.

Melodic minor, descending: Same as natural minor.

Scale Degrees in Minor

The scale-degree names in minor are identical to those in major with only a few exceptions (Example 5.14). The $\hat{7}$ in harmonic or melodic minor remains the leading tone, as in major. But in natural minor, $\flat\hat{7}$ is called the **subtonic**, a whole step below the tonic. When $\flat\hat{6}$ is raised to $\hat{6}$ in melodic minor, it is simply known as the **raised submediant**.

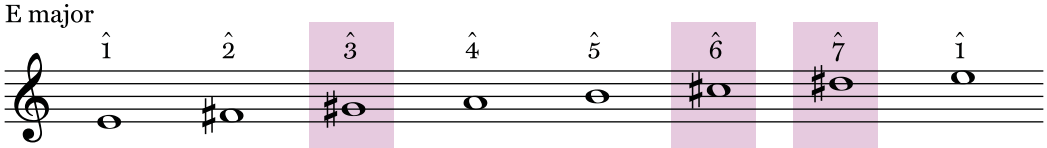
EXAMPLE 5.14: Scale-degree names in minor keys



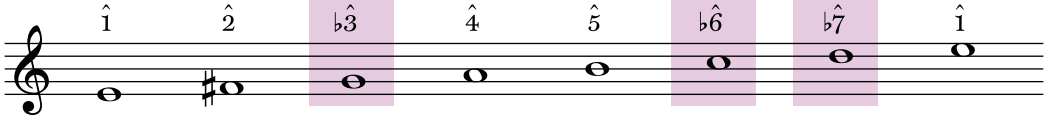
Musicians sometimes speak of a passage written in the "major mode" or "minor mode" (rather than "key"). Because scale degrees $\hat{3}$, $\hat{6}$, and $\hat{7}$ are crucial in the distinction between major and minor, they are often called the **modal scale degrees** –they create the distinctive sound of each mode. Example 5.15 highlights the modal scale degrees in the parallel keys E major and E minor.

EXAMPLE 5.15: Modal scale degrees in parallel keys

E major

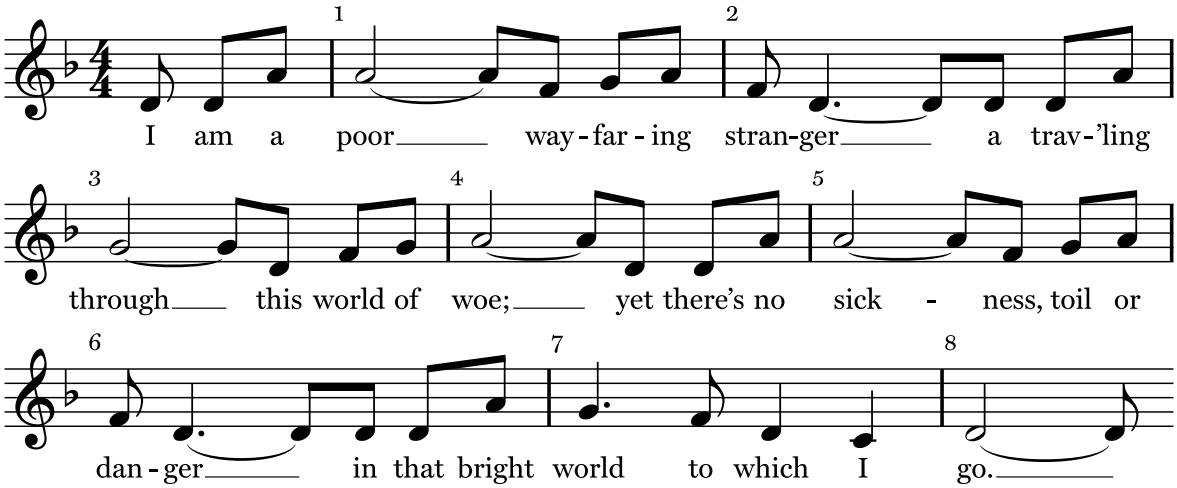


E minor (natural)



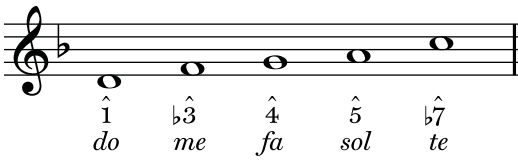
The Minor Pentatonic Scale

Embedded within the natural minor scale is a five-note scale often heard in folk melodies. For an example, listen to "Wayfaring Stranger" (Example 5.16), and identify which scale degrees of the natural minor scale are missing.

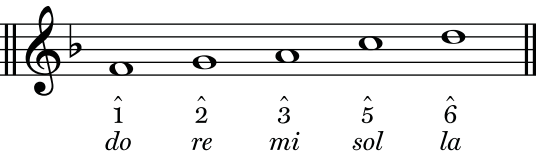
EXAMPLE 5.16: "Wayfaring Stranger," mm. 1–8 (melody)

The melody includes $\hat{1}$, $\flat\hat{3}$, $\hat{4}$, $\hat{5}$, and $\flat\hat{7}$ (*do*, *me*, *fa*, *sol*, and *te*), but is missing $\hat{2}$ (*re*) and $\flat\hat{6}$ (*le*). These pitches make up a scale called the **minor pentatonic** (Example 5.17a), because it consists of only five diatonic pitches and gets its sound from $\hat{1}$, $\flat\hat{3}$, and $\hat{5}$ of the minor scale. Part (b) compares this collection with the major pentatonic (see Chapter 3), which gets *its* sound from $\hat{1}$, $\hat{3}$, and $\hat{5}$ of the major scale. The major and minor pentatonic scales are "rotations" of the same pitch-class collection, as are relative-major and natural-minor scales.

EXAMPLE 5.17: Pentatonic scales

(a) D minor pentatonic



(b) F major pentatonic

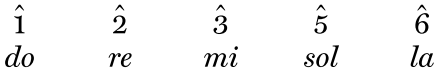


Try it #8

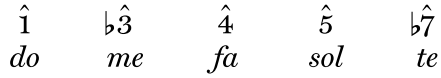
For each tonic pitch given, write the major pentatonic scale on the left and the minor pentatonic on the right. Think of the major and minor key signatures, and use the scale degrees below as a guide.

Show answers

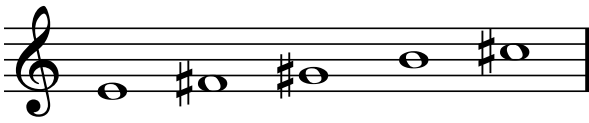
Major pentatonic:



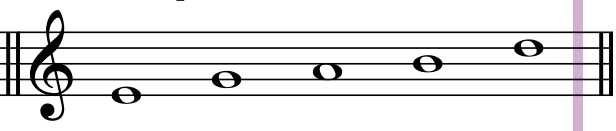
Minor pentatonic:



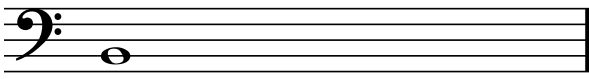
(a) E major pentatonic



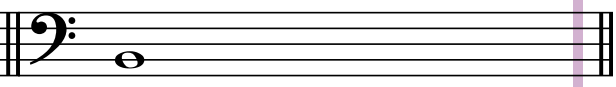
(b) E minor pentatonic



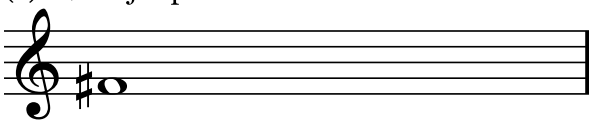
(c) B major pentatonic



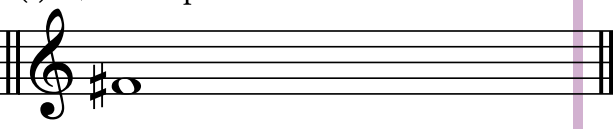
(d) B minor pentatonic



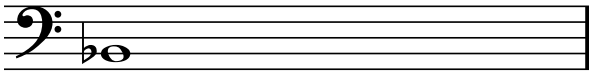
(e) F♯ major pentatonic



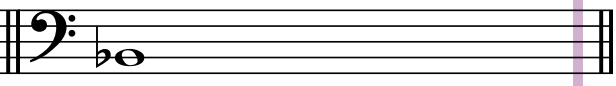
(f) F♯ minor pentatonic



(g) B♭ major pentatonic



(h) B♭ minor pentatonic

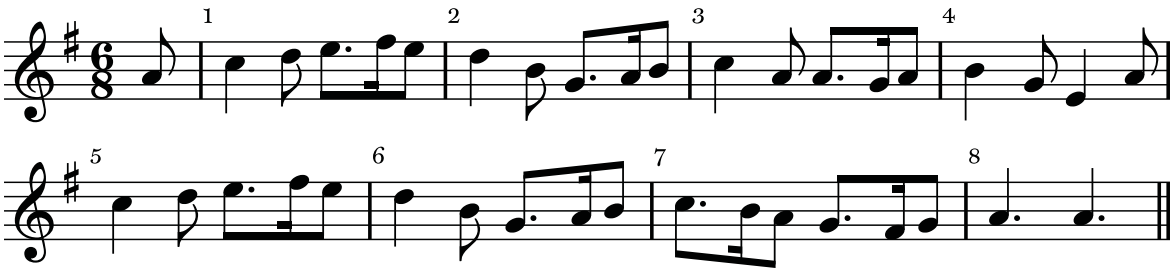


Modes of the Diatonic Collection

Perhaps you know pieces whose underlying scales don't fit neatly into the major or minor scale types discussed so far. Listen to the beginning of one such melody, "Greensleeves" (Example 5.18). The tune appears to be in A minor, since it begins and ends on A. Yet its key signature (F♯) yields the same pitch-class collection as G major (or E minor).

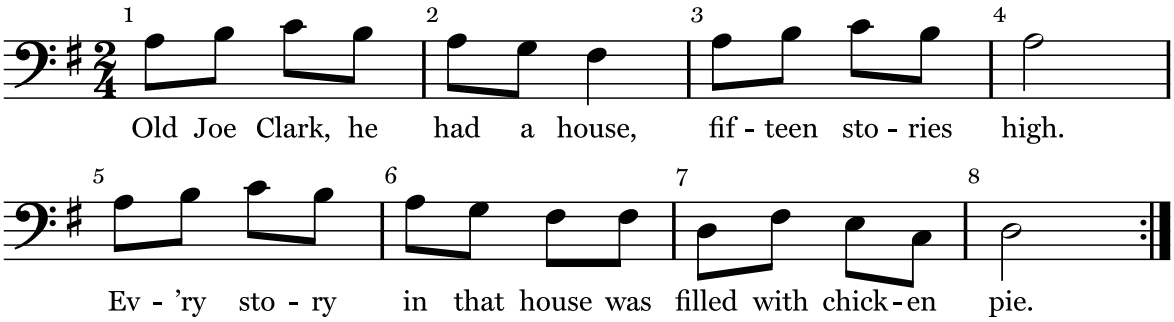
This type of scale is neither major nor minor, but **modal**—in this case, the mode known as **Dorian**. Dorian sounds like natural minor, but with a raised sixth scale degree. In some arrangements (as in your anthology version), the Dorian melody is altered at the end (with an added G♯, the leading tone to A), but the version shown here is purely Dorian. Modal melodies are typically found in music of the Renaissance and early Baroque, folk and popular music, world musics, and some rock and jazz.

EXAMPLE 5.18: Dorian melody, "Greensleeves," mm. 1–8



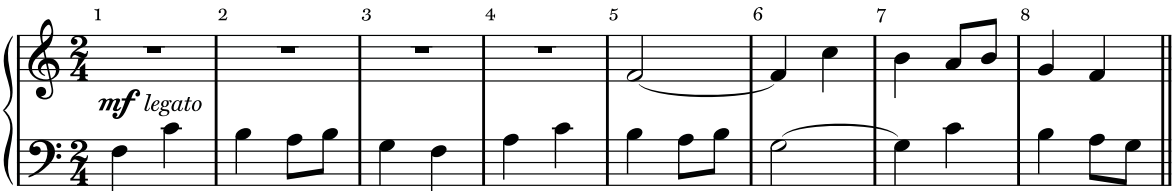
Now listen to Example 5.19, "Old Joe Clark." This folk tune sounds somewhat major, with D as the tonic and starting on $\hat{5}$, but its key signature of only one sharp means that the seventh scale degree in D is lowered (C♮). This mode is called **Mixolydian**.

EXAMPLE 5.19: "Old Joe Clark" (melody)



Sometimes a composer will use only a segment of a mode or scale, as Bartók does in the piano piece shown in Example 5.20. In that case, the melody will inevitably feature characteristic sounds of the mode. Here, the **Lydian** mode (which sounds like a major scale but with ♯4̂) is identified in the title, and the melody, with F as the tonic, features a prominent downbeat on B♮ (♯4̂) in measures 2 and 5.

EXAMPLE 5.20: Bartók, "In Lydian Mode," mm. 1–8



The "Relative" Identification of Modes

There are six traditional **diatonic modes**, sometimes called the "church" modes because of their association with early plainsong chants sung in the Christian church. These modes share the same diatonic collection as a major (or natural minor) scale, but each begins on a different pitch. Sing or play the six

"rotations" shown in Example 5.21, and listen to how the new arrangement of whole and half steps gives each mode a distinctive sound.

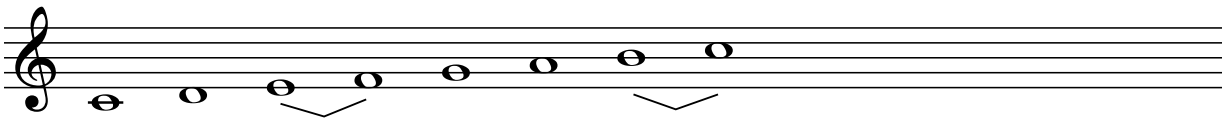
KEY CONCEPT The diatonic collection of pitches from C to C may be rotated to begin with any pitch. Each rotation forms a diatonic mode. These are (in order, from C): Ionian, Dorian, Phrygian, Lydian, Mixolydian, and Aeolian. (As a shortcut to learning their names, think of a sentence with the first letter of each mode in order, like "I don't particularly like magic acts.")

To identify a mode with the "relative" method, think of the major key associated with the work's key signature (for example, C major, as below).

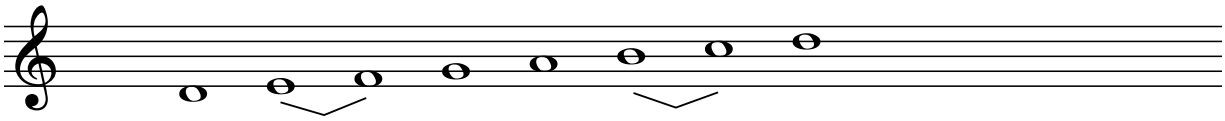
- If the melody rests on $\hat{1}$ as its most stable pitch, it is Ionian (major).
- If it rests on $\hat{2}$: Dorian.
- If it rests on $\hat{3}$: Phrygian.
- If it rests on $\hat{4}$: Lydian.
- If it rests on $\hat{5}$: Mixolydian.
- If it rests on $\hat{6}$: Aeolian (natural minor).

EXAMPLE 5.21: Modes as rotations of the C major diatonic collection

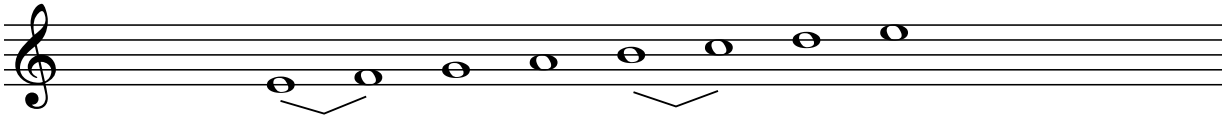
(a) Ionian (major): C to C ($\hat{1}$ to $\hat{1}$)



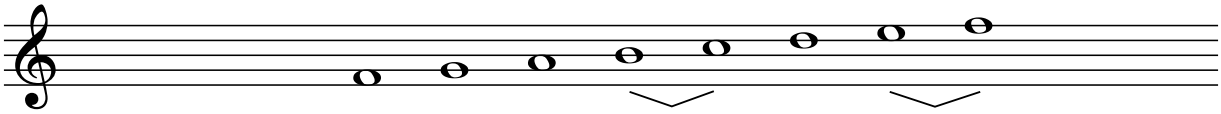
(b) Dorian: D to D ($\hat{2}$ to $\hat{2}$)



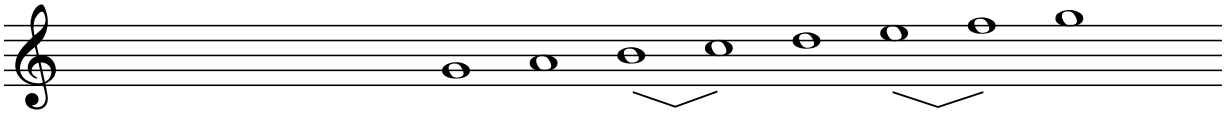
(c) Phrygian: E to E ($\hat{3}$ to $\hat{3}$)



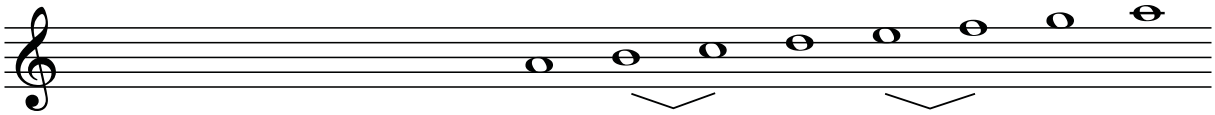
(d) Lydian: F to F ($\hat{4}$ to $\hat{4}$)



(e) Mixolydian: G to G ($\hat{5}$ to $\hat{5}$)



(f) Aeolian (natural minor): A to A ($\hat{6}$ to $\hat{6}$)

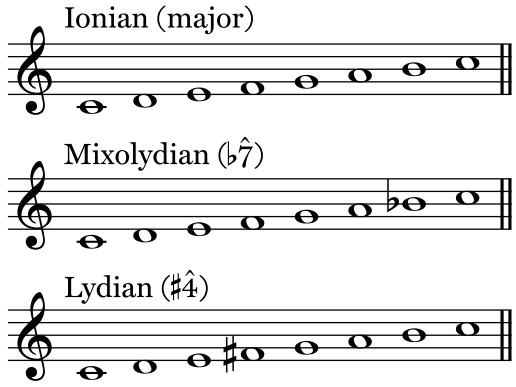


The “Parallel” Identification of Modes

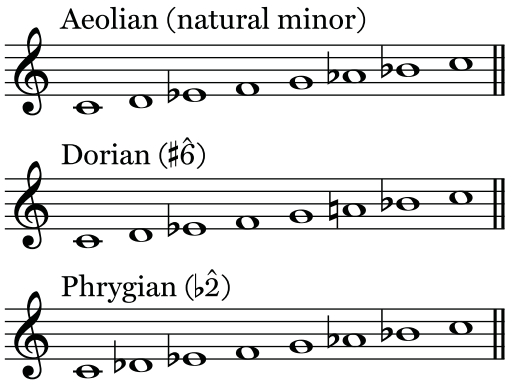
Because our twenty-first-century ears are accustomed to the major and minor scales, we sometimes hear the modes as alterations of these more familiar scales. We can therefore group the modes into two families, according to whether their third scale degree comes from the major or minor pentachord. Example 5.22 summarizes this approach, with each mode beginning on C.

EXAMPLE 5.22: Modes grouped by families (on C)

(a) Based on major pentachord ($\hat{3}$)



(b) Based on minor pentachord ($\flat\hat{3}$)



Spelling Modal Scales

Now you can spell a mode from any given starting note by using either the relative or parallel method, as described below.

KEY CONCEPT To write a Dorian scale beginning on G:

Relative method (Example 5.23a):

1. Write note heads on the staff from G to G.
2. Remember that Dorian begins on 2̂ of a major scale; G is 2̂ in the scale of F major.
3. The key signature of F major has one flat, so add a flat to B.

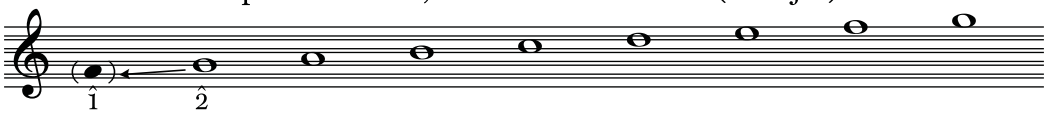
Parallel method (part b):

1. Remember that Dorian sounds like natural minor, with a raised sixth scale degree.
2. Write a G natural-minor scale, with two flats (B♭ and E♭).
3. Raise ♭6̂ by changing E♭ to E♮.

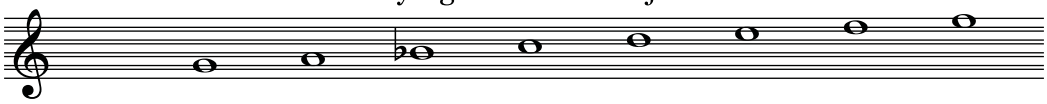
EXAMPLE 5.23: Two ways to write G Dorian

(a) Relative method

1. and 2. Write pitches G to G, and think of the scale (F major) in which G is $\hat{2}$.



3. Add accidentals from key signature of F major.



(b) Parallel method

1. and 2. Write pitches and accidentals for G natural minor.

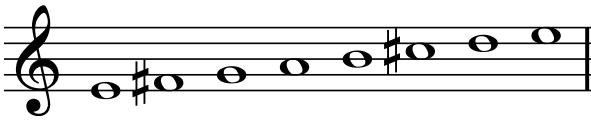
3. Raise $\flat\hat{6}$ to $\hat{6}$.

Try it #9

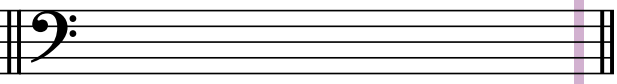
Use one of the methods described above to write each of the following modes.

Show answers

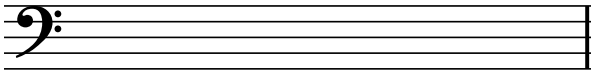
(a) E Dorian



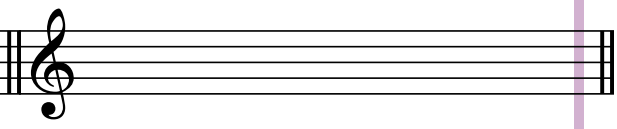
(b) B♭ Lydian



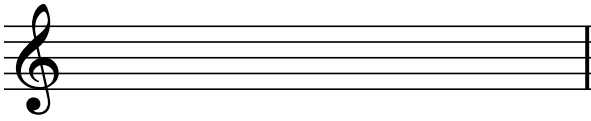
(c) B Aeolian



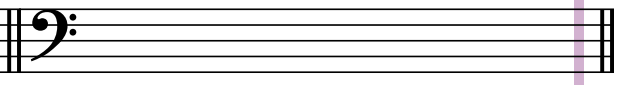
(d) A Mixolydian



(e) F♯ Phrygian



(f) E♭ Ionian

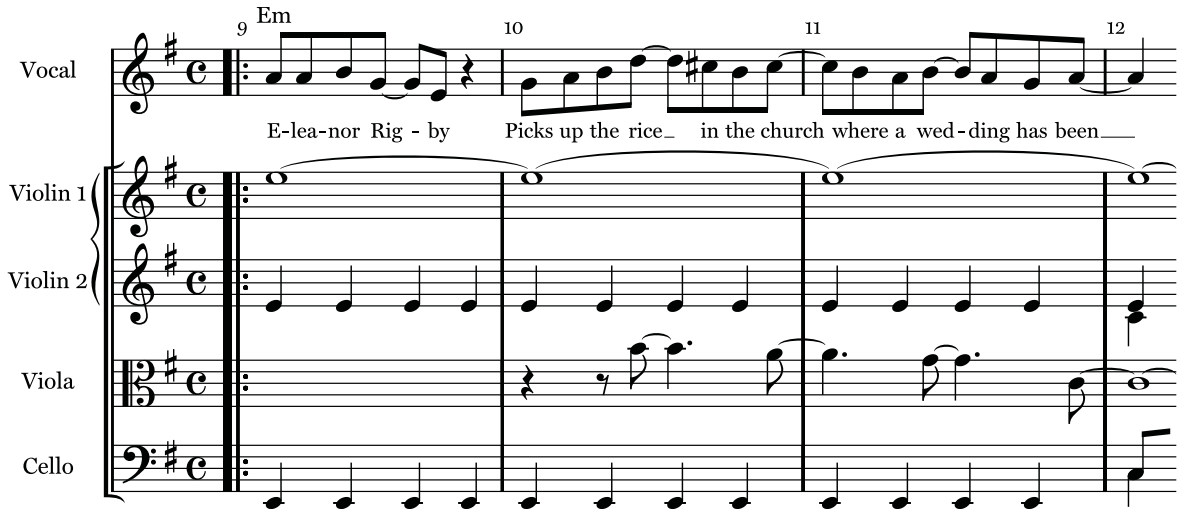


Twentieth-Century and Contemporary Modal Practice

After years of neglect in the late eighteenth and nineteenth centuries (outside of folk music), the diatonic modes received renewed interest in the twentieth century as jazz and popular musicians—as well as classical composers—rediscovered their beauty. In modern use, even though the six diatonic modes can be transposed to begin on any pitch class, they are most often seen in their white-key versions, or with one flat or one sharp. Musicians occasionally draw on a seventh diatonic mode as well—the **Locrian**, or B to B.

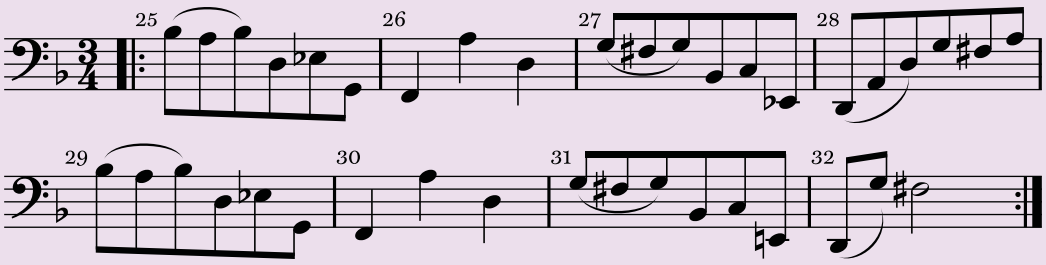
Just as composers mix major and minor for expressive effect, musical passages may express one mode, then shift to another. For example, consider Lennon and McCartney's "Eleanor Rigby" (Example 5.24). Its key signature of one sharp and repeated Es in the cello and second violin suggest E minor. Yet the melody of measures 9–12 features a C♯ alteration—a ♭6̂ that temporarily invokes the Dorian mode.

EXAMPLE 5.24: Lennon and McCartney, "Eleanor Rigby," mm. 9–12



Did You Know?

In the early eighteenth century (during the lifetimes of Johann Sebastian Bach, George Frideric Handel, and Joseph Haydn), writers argued over whether the old modes should be taught or be replaced by the more modern major and minor scales. Those preferring to retain the modes lamented the possible loss of their beauty and richness; those in favor of major and minor observed that the scales worked better with the functional harmonies of tonal music. You may be surprised to learn that to these writers, the model minor scale was not Aeolian (or natural minor) but Dorian. Manuscripts of music in minor from that time often show one fewer flat in the key signature than we would expect; the extra flat (for the sixth scale degree) was carefully written in every time that pitch class appeared in the music. For example, Bach's Minuet II from the Cello Suite No. 1, shown here, is in G minor (note the F♯ leading tone), yet the key signature shows only one flat. The other flat, E♭, is added as an accidental in measures 25, 27, and 29.


25
26
27
28
29
30
31
32

TERMS YOU SHOULD KNOW

diatonic modes
- Aeolian
- Dorian
- Ionian
- Locrian
- Lydian
- Mixolydian
- Phrygian

major pentachord
minor pentachord
minor scale
- harmonic
- melodic
- natural

modal scale degree
mode
parallel major
parallel minor
pentatonic scale
- major pentatonic
- minor pentatonic

raised submediant
relative major
relative minor
subtonic
tetrachord
- major
- harmonic minor
- natural minor

QUESTIONS FOR REVIEW

1. What similarities do relative and parallel minor share with major? How do relative and parallel minor differ from each other?
2. What are the differences between the three minor scale types? How are these differences reflected in the scale-degree names?
3. Given a key signature, how do you know which minor key it represents?
4. Given a minor key, how do you find the relative major?
5. How do the diatonic modes differ from major and minor scales? Describe the relative and parallel methods for identifying and spelling modes.
6. Given a pitch and a mode to build on it, what steps should you follow?
7. Find a piece, in your own repertoire if possible, with two movements related by relative or parallel keys. Find a piece written in one of the diatonic modes.

Know It? Show It!

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Apply what you've learned to complete the workbook assignments.

6 Intervals

Outline

Combining pitches
- Interval size
- Melodic and harmonic intervals
- Compound intervals

Interval quality
- Major, minor, and perfect intervals
- Inverting intervals

Spelling intervals
- Smaller intervals: 2, 3, and 4
- Larger intervals: 5, 6, and 7
- Semitones and interval size
- Augmented and diminished intervals
- Enharmonically equivalent intervals

Consonant and dissonant intervals
- Analyzing intervals in music

Overview

In this chapter, we combine pitches to form intervals. We also

examine how composers use intervals to write music in different styles.

Repertoire

"The Ash Grove"
Johann Sebastian Bach, Invention in D Minor
George Frideric Handel, Chaconne in G Major
Wolfgang Amadeus Mozart, *Variations on "Ah, vous dirai-je Maman"*
John Philip Sousa, "The Stars and Stripes Forever"
Anton Webern, *Symphonie*, Op. 21, mvt. 1

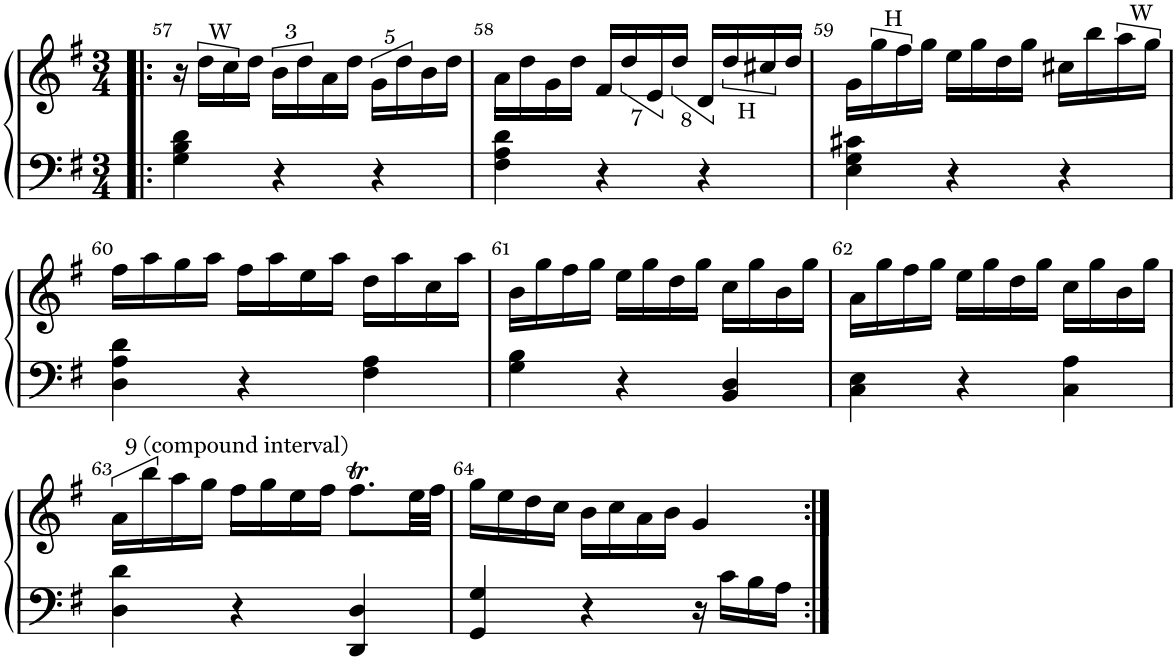
Combining Pitches

Interval Size

Listen to Example 6.1, a passage from a keyboard composition by Handel, while focusing on the treble-clef melody. Several pairs of pitches are bracketed in the first three measures: these are examples of intervals.

KEY CONCEPT An **interval** measures the musical space between two pitches. Intervals are identified by their size (typically a number between 1 and 8) and quality (such as major or minor).

EXAMPLE 6.1: Handel, Chaconne in G Major, Variation 5, mm. 57–64



Some intervals bracketed in the example are whole (W) and half (H) steps; these are all seconds (2). Several other intervals are bracketed as well: in measure 57, an ascending third (3: B–C–D) and fifth (5: G–A–B–C–D); and in measure 58, a descending seventh (7: D–C–B–A–G–F–E) and an octave.

KEY CONCEPT When naming intervals, always count the first and last letter names. For example, from A up to D is a fourth (A–B–C–D); *any* A up to *any* D is some kind of fourth, no matter what the accidental. Similarly, from A down to D is a fifth (A–G–F–E–D).

If two parts play the exact same pitch, this "interval"—which spans no actual space—is a **unison** (from the Latin *unus*, or "one"), abbreviated U (or 1). The term may be familiar from choral singing: when all women or all men sing a line together, they are singing "in unison." (When women and men sing together, however, they usually sing in octaves.)

Melodic and Harmonic Intervals

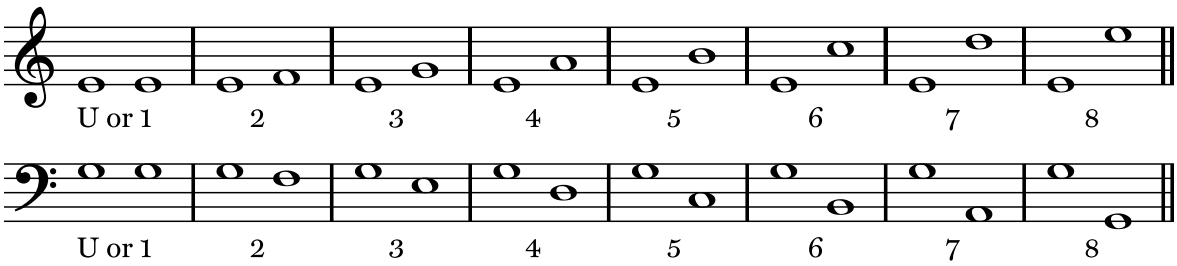
Intervals between successive pitches, like those in the treble clef of Example 6.1, are **melodic intervals**. In the bass-clef part of measure 61, two pitches on beat 1 sound at once: G3 and B3 (a third). Intervals between two pitches sounding simultaneously are **harmonic intervals**. Name them the same way as melodic intervals—by counting the letter names encompassed by the interval. Handel's bass-clef part, in fact, features harmonic intervals in every measure.

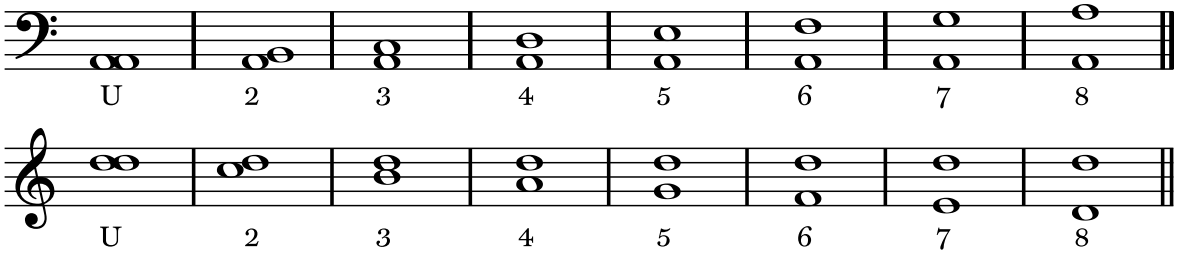
KEY CONCEPT Melodic intervals are formed between two successive pitches in a melodic line. Harmonic intervals are formed between two pitches sounding at the same time.

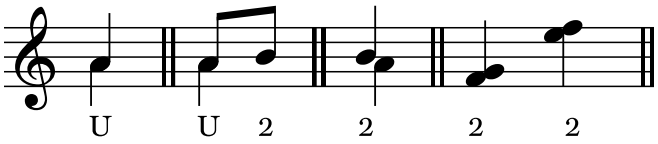
Learning to identify interval sizes quickly and accurately by eye and by ear is an essential step in reading music fluently. Example 6.2 shows all the interval sizes up to an octave. When you write harmonic intervals (part b), align the two note heads with one directly above the other; for unisons and seconds, though, you must write the note heads side by side with the lower note on the left, unless each note gets a separate stem (part c).

EXAMPLE 6.2: Interval sizes up to the octave

(a) Melodic intervals



(b) Harmonic intervals

(c) Unisons and seconds with stems



KEY CONCEPT Learn these visual landmarks to identify interval sizes quickly.

Thirds, fifths, and sevenths always have both pitches on lines or both on spaces.

- For thirds, the lines or spaces are adjacent.
- For fifths, skip one line or space.
- For sevenths, skip two spaces or lines.

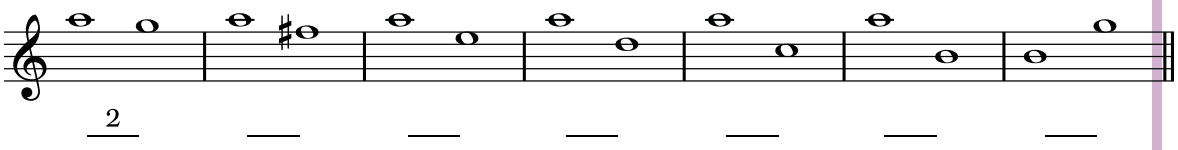
Seconds, fourths, sixths, and octaves always have one pitch on a line and one on a space.

Try it #1

The intervals notated below are from measures 60–64 of Example 6.1. Write the size of each interval in the blank, as quickly as possible.

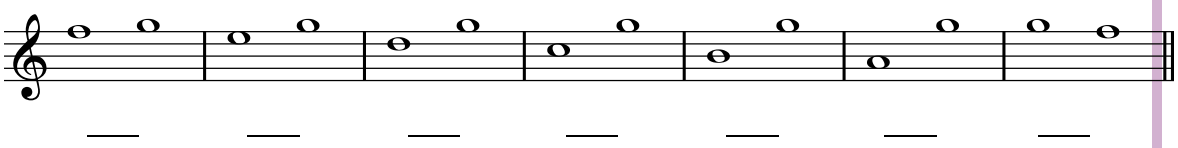
(a) Melodic intervals from mm. 60–61 (right hand)

Show answers



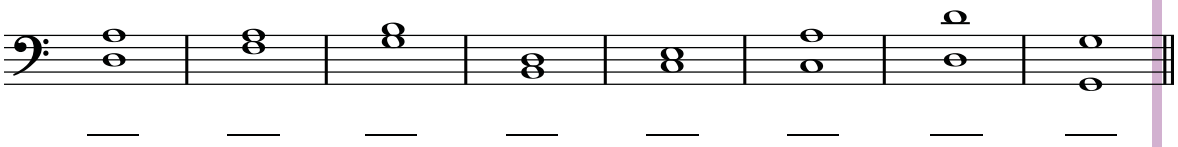
(b) Melodic intervals from mm. 61–62 (right hand)

Show answers



(c) Harmonic intervals from mm. 60–64 (left hand)

Show answers

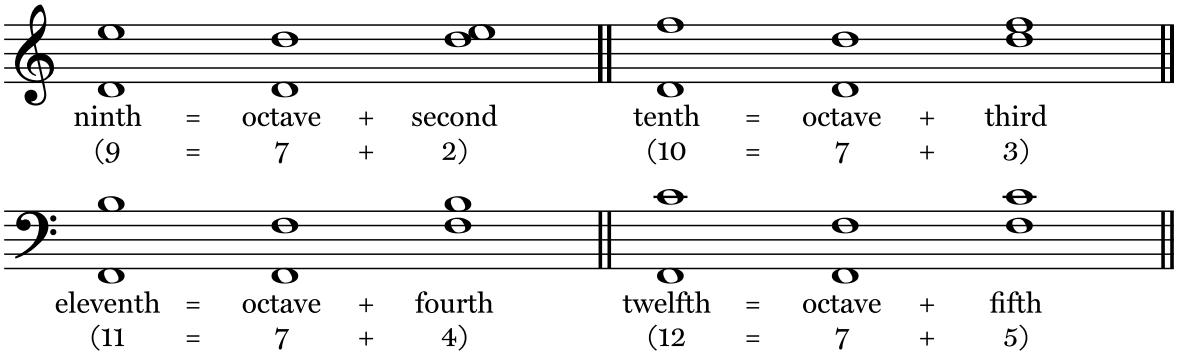


Compound Intervals

All the intervals in Example 6.2 are **simple intervals**: they are an octave or smaller in size. Now look again at Example 6.1. In measure 63, the first interval in the treble clef (A4–B5) actually spans an octave plus a second—sometimes referred to as a ninth, since it spans nine letter names. Intervals larger than an octave are **compound intervals**. Most common are ninths, tenths, elevenths, and twelfths—which correspond to an octave plus a second, third, fourth, and fifth.

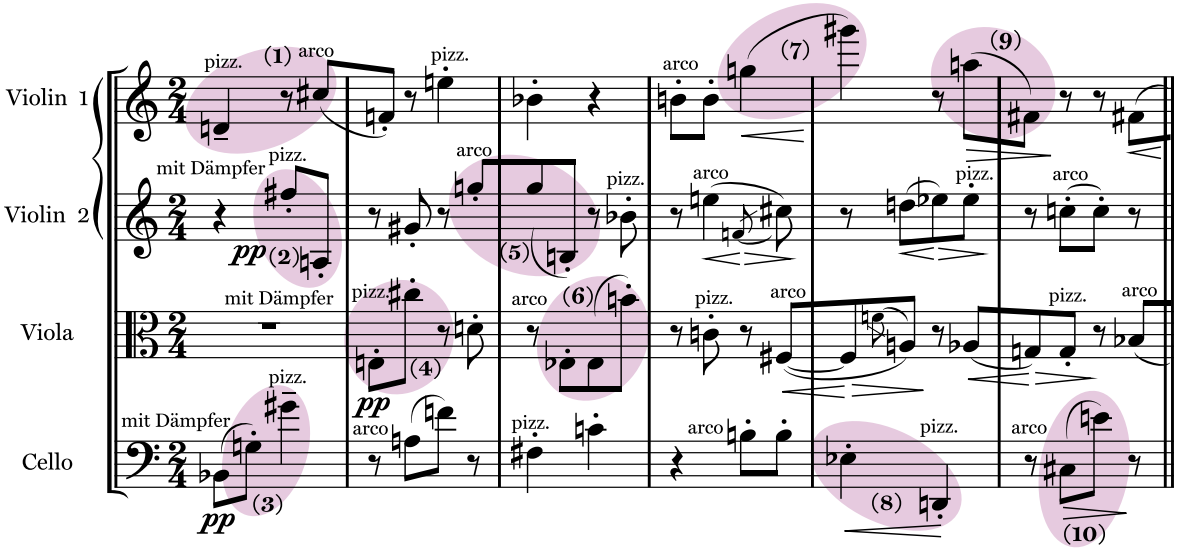
To name compound intervals, add 7 to the simple interval, as in Example 6.3. For example, a second plus an octave equals a ninth, and a fourth plus an octave equals an eleventh. (Add 7 rather than 8, because we number the unison as 1 rather than 0.)

EXAMPLE 6.3: Naming compound intervals



Though most melodies feature intervals smaller than an octave, some twentieth-century composers are more liberal with compound intervals in melodic lines. Example 6.4, from Webern's *Symphonie*, shows large intervals characteristic of this composer's style. (Parenthetical numbers and shading in the score refer to *Try it* #2.)

EXAMPLE 6.4: Webern, *Symphonie*, mvt. 2, mm. 12–17



Try it #2

For each shaded interval (simple or compound) in Example 6.4, write the interval size in the corresponding blank below. If the interval is **Show**

compound, also write the simple-interval equivalent in parentheses. **answers**

(1) 7
(2) 13(6)
(3) _____
(4) _____
(5) _____
(6) _____
(7) _____
(8) _____
(9) _____
(10) _____

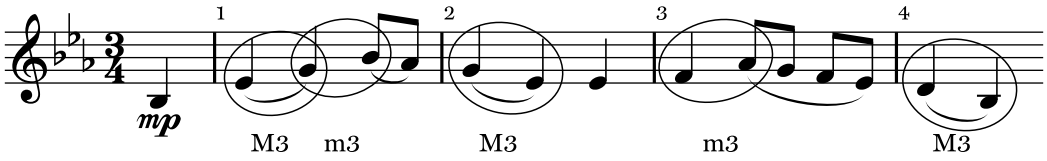
The exact musical space spanned by an interval is important to the way it sounds–for example, C5 to C6 played by two flutes sounds very different from C2 to C6 played by a tuba and a flute, and a melodic third is easier to sing than a melodic tenth. There are times when it is important to label the span of an interval exactly. More often, however, you will want to label the interval without regard for the "extra" octaves between pitches –writing 3 instead of 10, or 5 instead of 12.

Interval Quality

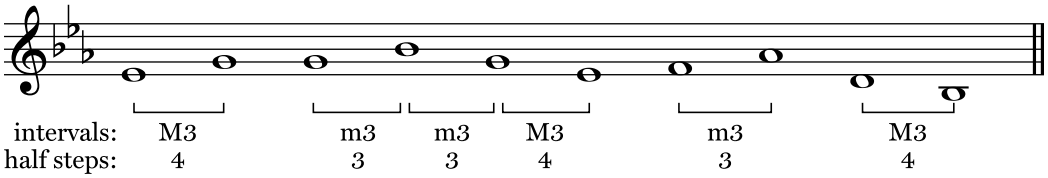
Listen to the beginning of the folk song shown in Example 6.5a.

EXAMPLE 6.5: "The Ash Grove"

(a) Mm. 1–4 (melody)



(b) Thirds from mm. 1–4



All the thirds from this melody are isolated in part (b). If you locate them on a keyboard (check the key signature!) and count the half steps they span, you'll find that some of them span three half steps and some span four. The number of half steps determines the third's **quality**.

While an interval's size—second, third, fourth, fifth, sixth, and so on—indicates roughly how large the interval is, its quality provides a more precise description. Intervals that span three half steps are **minor thirds** (m3); those that comprise four half steps are **major thirds** (M3). Similarly, intervals that span one half step are **minor seconds** (m2), and those that encompass

two half steps are **major seconds** (M2).

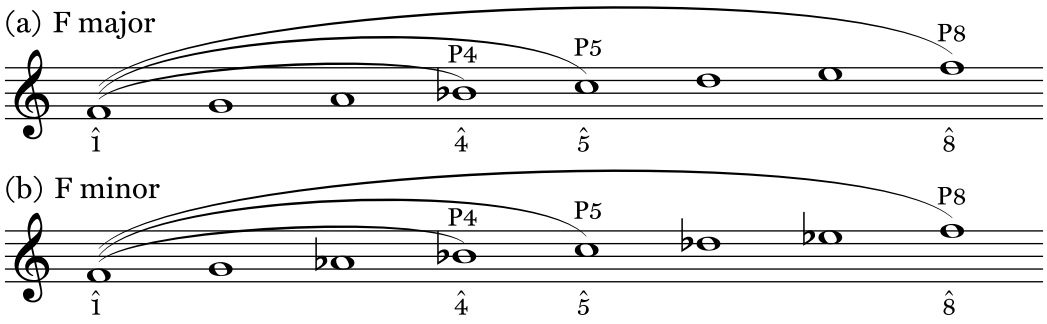
KEY CONCEPT When two intervals share the same interval size but not the same number of half steps, they differ in quality. To find the quality of small intervals, count half steps: minor intervals are a half step smaller than major intervals.

INTERVALS	LETTER NAMES SPANNED	HALF STEPS
Minor 2 (m2)	2 letter names	1
Major 2 (M2)	2 letter names	2
Minor 3 (m3)	3 letter names	3
Major 3 (M3)	3 letter names	4

Major, Minor, and Perfect Intervals

The F major scale and its parallel minor, F minor, are given in Example 6.6. You'll see that scale degrees $\hat{1}$, $\hat{4}$, $\hat{5}$, and $\hat{8}$ in the two scales are exactly the same. The interval from $\hat{1}$ to $\hat{4}$ is a **perfect fourth** (abbreviated P4), from $\hat{1}$ to $\hat{5}$ is a **perfect fifth** (P5), and from $\hat{1}$ to $\hat{8}$ is a **perfect octave** (P8). The interval from $\hat{1}$ to itself is a **perfect unison** (PU). From the time of the earliest writings about music, around the fifth century BCE, these intervals were considered the purest, hence the term "perfect."

EXAMPLE 6.6: Perfect intervals in major and minor scales



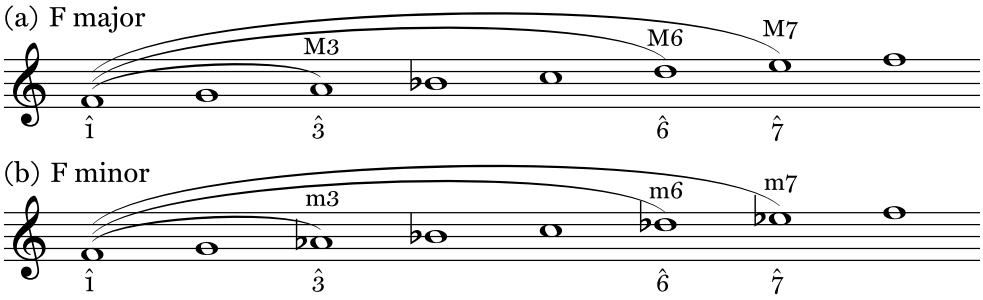
KEY CONCEPT Perfect intervals, which share

identical pitches in parallel major and minor keys, are never major or minor. Memorize these labels: PU, P4, P5, P8.

Now look at Example 6.7 to compare the intervals between $\hat{1}$ and $\hat{3}$, $\hat{1}$ and $\hat{6}$, and $\hat{1}$ and $\hat{7}$. In the major scale (part a), these form a major third (M3), major sixth (M6), and major seventh (M7), respectively. In the minor scale (part b), they are a minor third (m3), minor sixth (m6), and minor seventh (m7). You may recall (from Chapter 5) that scale degrees $\hat{3}$, $\hat{6}$, and $\hat{7}$ are often referred to as the modal scale degrees; the intervals they form above the tonic help give major and minor keys their characteristic sound.

KEY CONCEPT Major intervals 3, 6, and 7 (built above the tonic of a major scale) are a half step larger than the corresponding minor intervals 3, 6, and 7 (built above the tonic in a minor scale). The interval between $\hat{1}$ and $\hat{2}$ is always a M2.

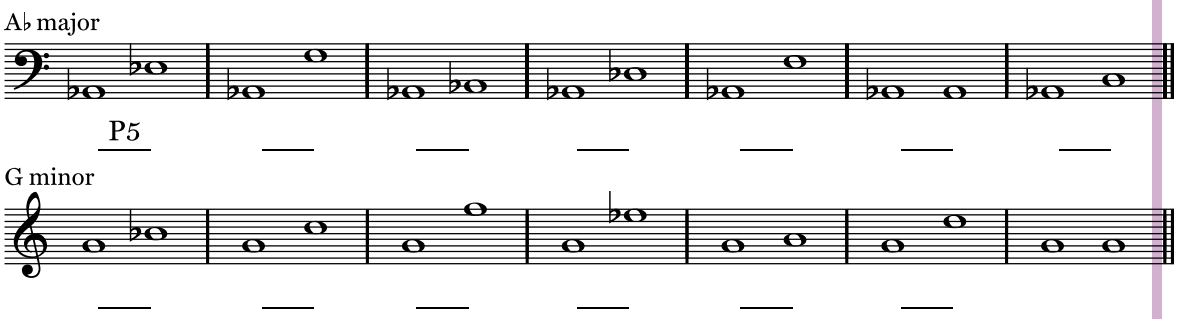
EXAMPLE 6.7: Major and minor intervals within scales



Try it #3

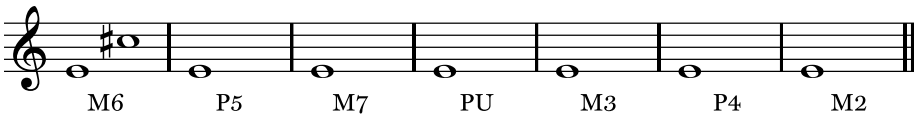
(a) Identify the size and quality of each melodic interval in the keys below.

Show answers



(b) Write each melodic interval in the key of E major. First write the note head for the correct interval size, then add accidentals (if needed) from the key signature of E major.

Show answers



SUMMARY

Intervals may be

- melodic—measured between successive notes,
- harmonic—measured between pitches sounding at the same time,
- simple—spanning an octave or less, or
- compound—spanning more than an octave.

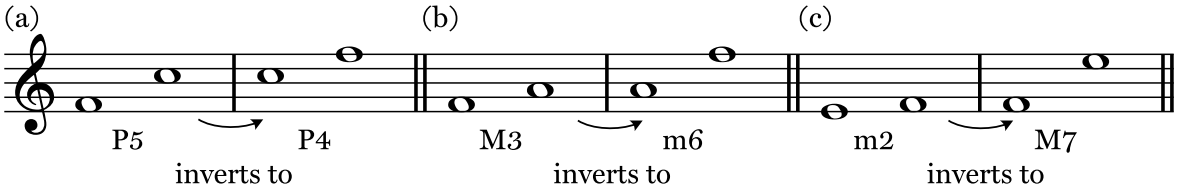
Intervals are labeled by their size and quality.

- Size measures the number of letter names spanned: U, 2, 3, 4, 5, 6, 7, 8.
- Intervals 2, 3, 6, and 7 may be major or minor, but not perfect (e.g., m2, M3, m6).
- Intervals U, 4, 5, and 8 may be perfect, but not major or minor (PU, P4, P5, P8).

Inverting Intervals

Learning to invert intervals will help you spell them more fluently and will come in handy as we begin to compose. Consider the interval F up to C (P5) shown in Example 6.8. If you reverse the order but keep the direction the same, C up to F, the resulting interval is a P4. P4 is thus the **inversion** of P5, and pairs of intervals like these, made from the same pitch classes but with the order reversed, are **inversionally related**. As the example shows, perfect intervals remain perfect when they are inverted. But a major interval inverts to a minor interval—for example, a M3 inverts to a m6 (part b); and a minor interval inverts to a major interval—a m2 inverts to a M7 (part c).

EXAMPLE 6.8: Inversionally related intervals



KEY CONCEPT When intervals are inverted,

- perfect intervals remain perfect;
- major intervals invert to minor;
- minor intervals invert to major;
- and the two interval sizes always sum to 9 (e.g., 1 inverts to 8, 3 inverts to 6, 4 inverts to 5).

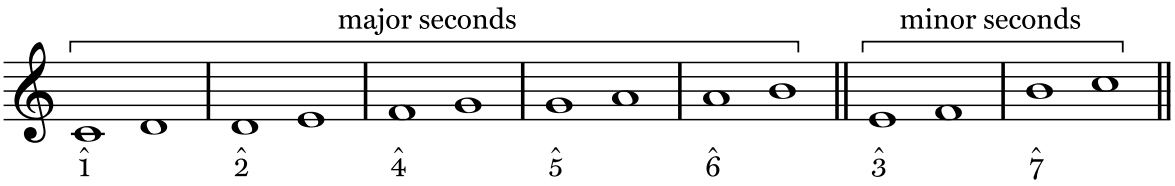
Spelling Intervals

Smaller Intervals: 2, 3, and 4

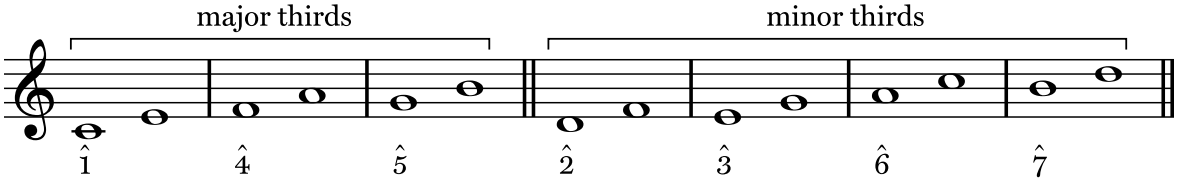
There are several different methods for identifying and spelling intervals. Some musicians find it easiest to memorize the size (major or minor) of the white-key intervals on a keyboard, beginning with seconds, thirds, and fourths (Example 6.9).

EXAMPLE 6.9: White-key interval qualities

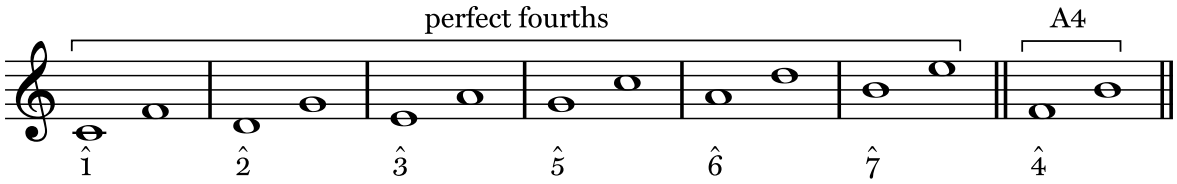
(a)



(b)



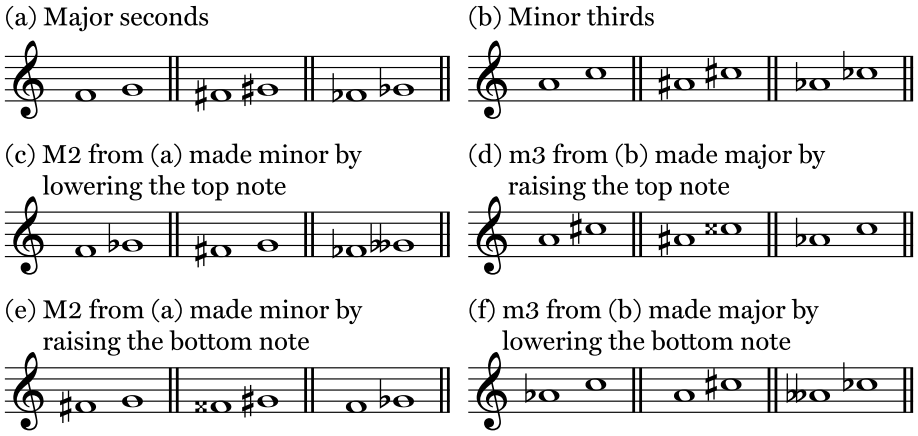
(c)



Once you know these interval qualities, all others may be calculated in relation to them, as illustrated in Example 6.10.

- An interval with matching accidentals (both sharps or both flats) has the same quality as the white-key interval (parts a and b).
- Major seconds become minor seconds by lowering the top note (part c) or by raising the bottom note (part e).
- Minor thirds become major thirds by raising the top note (part d) or by lowering the bottom note (part f).

EXAMPLE 6.10: White-key intervals with accidentals added


(a) Major seconds
(b) Minor thirds
(c) M2 from (a) made minor by lowering the top note
(d) m3 from (b) made major by raising the top note
(e) M2 from (a) made minor by raising the bottom note
(f) m3 from (b) made major by lowering the bottom note

SUMMARY

- A major interval made one chromatic half step smaller becomes minor.
- A minor interval made one chromatic half step larger becomes major.
- Chromatic half steps don't change the letter name

of either note.

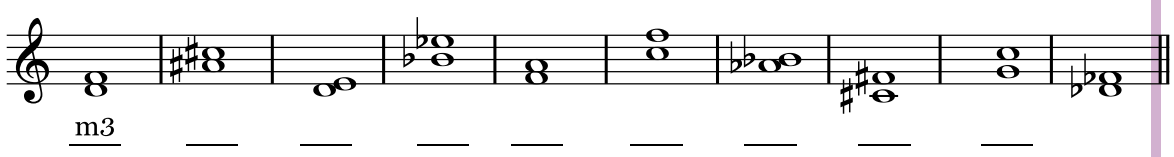
- Perfect intervals can't be made major or minor.

Try it #4

Identify the size and quality of each second, third, or fourth below. Remember that intervals with matching accidentals on both notes will have the same quality as their white-key counterparts.

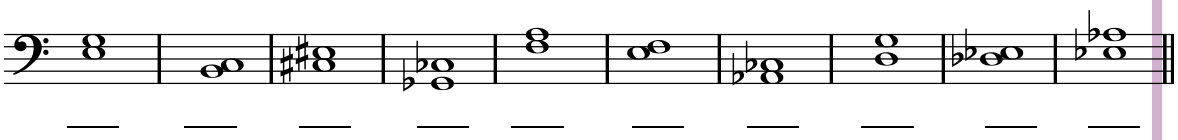
(a)

Show answers



(b)

Show answers



To write an interval (Example 6.11):

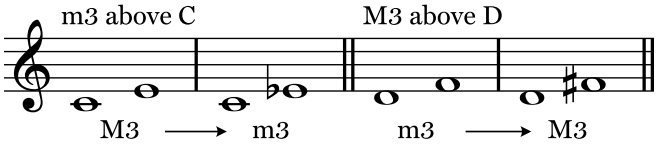
- Write the note heads for the correct interval size on the staff without accidentals (part a) or with matching accidentals (part b).
- If the quality of the interval is not correct, adjust by adding a flat, sharp, or natural to raise or lower the upper note.

• Either note of the interval can be adjusted, as shown in part (c).

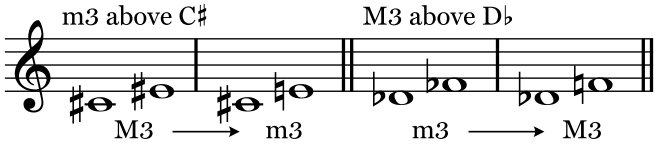
If asked to write an interval up or down from a given note, however, never change the given note; make the adjustment for quality on the other note.

EXAMPLE 6.11: Changing the quality of intervals

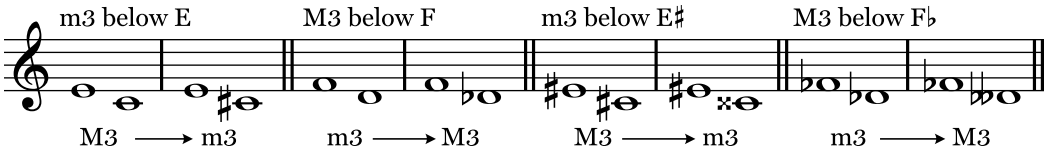
(a) Altering the upper note of a white-key interval



(b) Altering the upper note of an interval with matching accidentals



(c) Altering the lower note



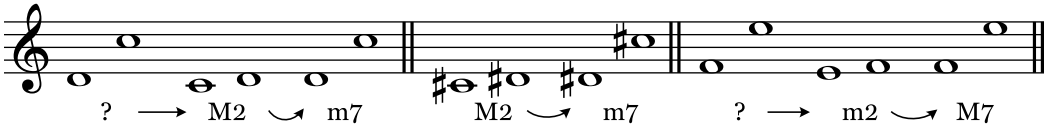
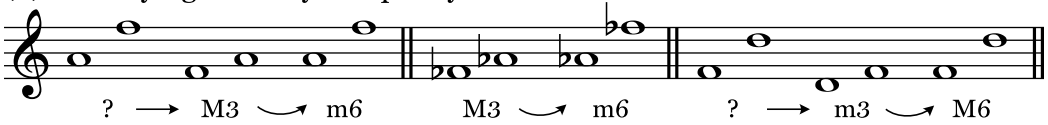
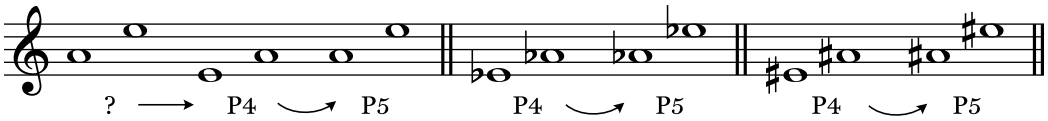
Larger Intervals: 5, 6, and 7

The smaller intervals (2, 3, and 4) can help you identify and spell their inversions (7, 6, and 5). To identify the quality of a seventh,

for example, think of the quality of its inversion: if the inversion is a m2, the seventh is a M7. The process is illustrated in Example 6.12.

- To identify the interval D up to C, think about its inversion, C–D (part a).
- Since C–D is a M2, D–C is a m7.
- This process also works if there are matching accidentals: since C♯–D♯ is a major second, D♯–C♯ is a minor seventh.
- Follow parts (b) and (c) to see the procedure for sixths and fifths.

EXAMPLE 6.12: Identifying larger intervals from their inversions

(a) Identifying sevenths by the quality of seconds

(b) Identifying sixths by the quality of thirds

(c) Identifying fifths by the quality of fourths

Another Way

Another way to identify and spell sixths and sevenths is to compare them with the closest perfect interval: P5 or P8.

Sixths: start with a P5 and make it larger.

- M6 = P5 + M2
- m6 = P5 + m2

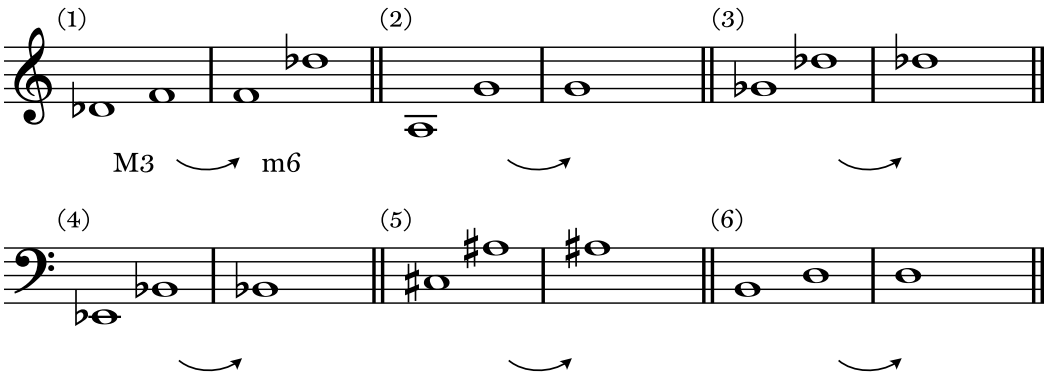
Sevenths: start with a P8 and make it smaller.

- M7 = P8 - m2
- m7 = P8 - M2

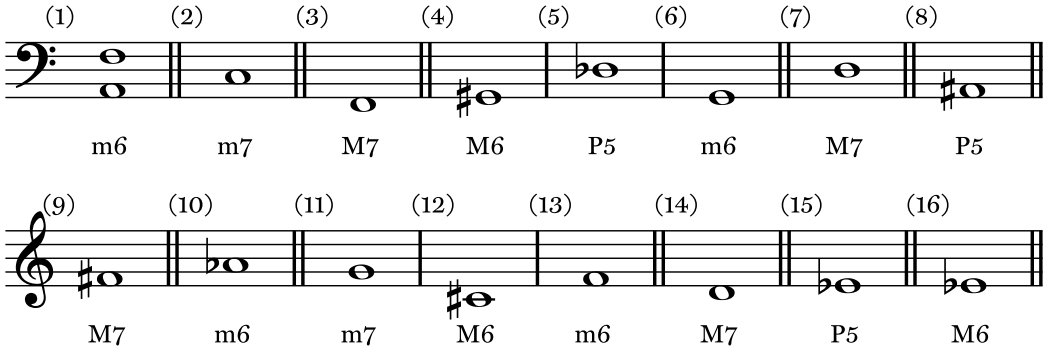
Try it #5

Try it #5

(a) Name the interval formed by each pair of pitches below. Then write the inversion, and name the new interval. **Show answers**



(b) Write harmonic intervals above the pitches given. To check your spelling, imagine the interval's inversion. **Show answers**



Semitones and Interval Size

You can also spell intervals by counting the scale steps from the first pitch to the second, then counting the half steps (semitones) between them; Figure 6.1 summarizes this information. Be sure to count the number of scale steps to match the interval size. (This system can be slower, especially for large intervals, and counting half steps may lead to spelling errors.)

FIGURE 6.1: Intervals as scale steps plus semitones

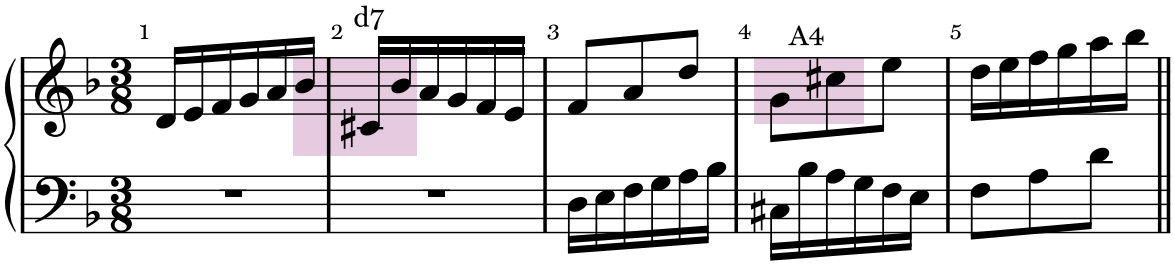
INTERVAL	SCALE STEPS	HALF STEPS
unison	1	0
m2	2	1
M2	2	2
m3	3	3
M3	3	4
P4	4	5
A4 or d5	4 or 5	6
P5	5	7
m6	6	8
M6	6	9
m7	7	10
M7	7	11
P8	8	12

Augmented and Diminished Intervals

In Chapter 5, we saw how Bach, in his D Minor Invention (Example 6.13), made a dramatic leap from B♭4 down to C♯4 and back up in measures 1–2 to avoid the melodic augmented second (A2). We will now learn how to name this interval (B♭–C♯) and one other new type shaded in the example: the G4 to C♯5 in measure 4.

- If the B♭ in measure 1 went down to a C♮ instead of C♯, it would be a minor seventh (m7). The interval Bach has written is a half step smaller than a m7 (but still spans seven letter names): this is a **diminished seventh** (d7).
- If the interval in measure 4 were G4–C5, it would be a perfect fourth (P4); the C♯ makes it a half step larger, an **augmented fourth** (A4).

EXAMPLE 6.13: Bach, Invention in D Minor, mm. 1–5



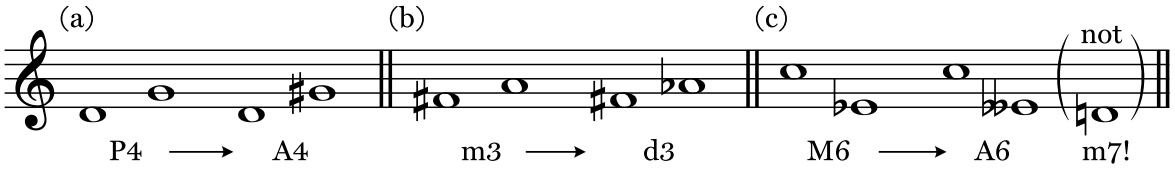
These striking diminished and augmented intervals are produced by the variants of scale degrees $\hat{6}$ and $\hat{7}$ that are available in harmonic and melodic minor scales.

KEY CONCEPT

- If a major or perfect interval is made one chromatic half step larger, it becomes augmented.
- If a minor or perfect interval is made one chromatic half step smaller, it becomes diminished.
- If a diminished interval is inverted, it becomes augmented (and vice versa).

Spelling Augmented and Diminished Intervals Although any augmented and diminished intervals can be spelled by raising or lowering scale degrees by a half step, only a few—the A2, A4, d5, A6, and d7—are commonly encountered in tonal music. To spell such an interval, first spell a major, minor, or perfect interval, then adjust the quality, as shown in Example 6.14. (Don't change the letter name of either pitch.) For a large interval, you may find it helpful to first spell its smaller inversion (e.g., for A6, spell d3) and then invert.

EXAMPLE 6.14: Spelling augmented and diminished intervals



SUMMARY

FOR A	START WITH	ADD AN ACCIDENTAL TO MAKE IT
diminished 2, 3, 6, 7	minor 2, 3, 6, 7	one chromatic half step smaller
diminished 4, 5, 8	perfect 4, 5, 8	one chromatic half step smaller
augmented 2, 3, 6, 7	major 2, 3, 6, 7	one chromatic half step larger
augmented U, 4, 5, 8	perfect U, 4, 5, 8	one chromatic half step larger

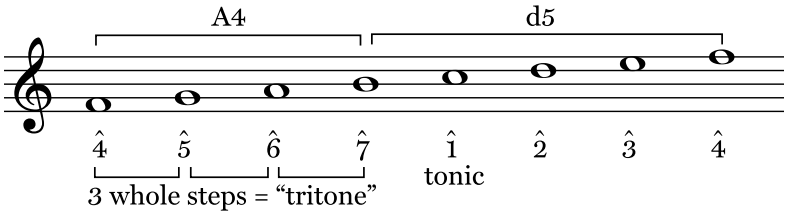
If a major or perfect interval is made one whole step larger (without changing letter names), it is **doubly augmented**. Similarly, if a minor or perfect interval is made one whole step smaller (without changing letter names), it is **doubly diminished**. Both types are rare.

The Tritone One interval in the diatonic major scale is neither major, minor, nor perfect: the A4 (or d5), as seen in Example 6.15a. Here the interval between F and B ($\hat{4}$ and $\hat{7}$; *fa* and *ti*) is an augmented fourth (A4) or a **diminished fifth** (abbreviated d5), depending on its position. When $\hat{4}$ is lower than $\hat{7}$ (F–B), the interval is an A4; when $\hat{4}$ is higher than $\hat{7}$ (B–F), it's a d5.

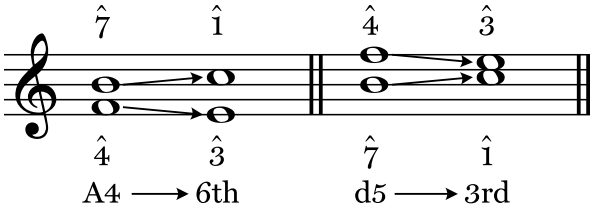
The A4 spans exactly three whole steps, hence its name: **tritone** (from "tri-," meaning "three"). The A4 and d5 are the only inversionally related intervals that are exactly the same size in semitones (six). They sound identical if not heard in a musical context; for this reason, most people use the term "tritone" for both intervals.

EXAMPLE 6.15: The A4 and d5 in C major

(a) In a C major scale



(b) Standard resolution

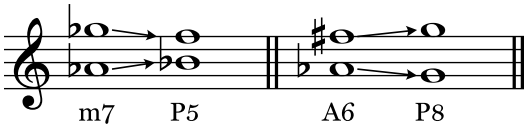


Because of the tendency of $\hat{7}$ to move to $\hat{1}$, the A4 and d5 **resolve** differently. As part (b) shows, augmented fourths move out, or resolve, to a sixth, while diminished fifths move in (resolve) to a third. We can distinguish between the sounds of the A4 and d5 by the interval to which each resolves.

Enharmonically Equivalent Intervals

Intervals that span the same number of half steps but have different names are **enharmonically equivalent**. For example, the m3 F to A♭ comprises three semitones, as does the A2 F to G ♯. Like these, any interval can be spelled in several ways, all of them enharmonic. (Think of enharmonic intervals as similar to homonyms in language: "here" and "hear" sound the same but have completely different meanings in a sentence.) The correct spelling is important: it reveals how the interval functions in the music.

Example 6.16, for instance, shows that an interval spanning ten semitones spelled A♭ to G♭ (a m7) does not resolve the same way as one spelled A♭ to F♯ (an A6); we will learn the reasons why in future chapters. For now, remember that enharmonically equivalent intervals are not really "equivalent" in key contexts. The correct spelling makes the interval easier to read for performers, and avoids confusion that may waste rehearsal time!

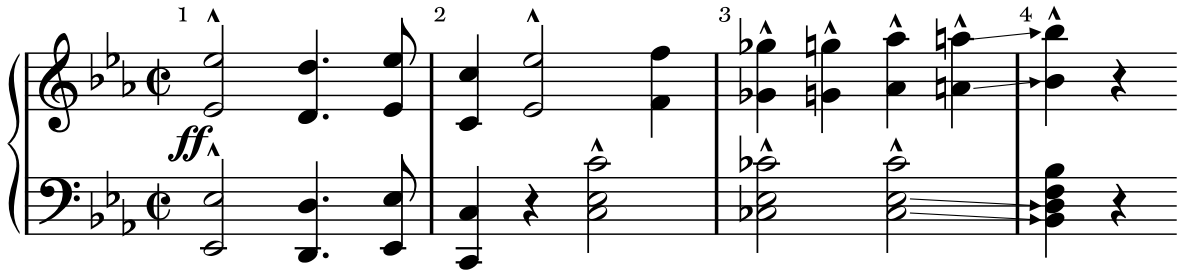
EXAMPLE 6.16: Resolutions of m7 and A6

Consonant and Dissonant Intervals

Over the course of music history, intervals have been characterized as **consonant** if they sound pleasing to the ear or tonally stable, and **dissonant** if they sound jarring, clashing, or as if they need to move somewhere else to find a resting point. Both are relative terms based on properties of sound and on the norms of compositional practice: what sounds consonant to us today may have sounded dissonant to a Renaissance musician. Still, as a rule of thumb, consider the following intervals to be consonant: unison, third, fifth, sixth, octave. Of these, the unison, fifth, and octave are considered **perfect consonances** because of their pure acoustic properties, while the third and sixth are **imperfect consonances**.

Dissonances include the second, seventh, and any augmented or diminished interval, such as the tritone. (Theorists in the Middle Ages actually considered the tritone the "devil in music" because of its dissonant sound.) The perfect fourth is sometimes grouped with the perfect consonances because of its acoustic properties, yet composers after the Renaissance tended to treat the harmonic fourth (but not the melodic fourth) as a dissonance. We will consider these properties further in later chapters on counterpoint and harmony.

To hear the difference between consonant and dissonant intervals, listen to the introduction of Sousa's "The Stars and Stripes Forever" (Example 6.17), or play the example slowly. As the introduction progresses, the intervals between the highest and lowest parts become more intense and the music seems to push forward to the chord in measure 4. What harmonic intervals achieve this effect?

EXAMPLE 6.17: Sousa, "The Stars and Stripes Forever," mm. 1–4



The first four harmonic intervals are all octaves—you can consider this passage as a single melody, but with higher and lower instruments playing the melody together (**doubled** in octaves). New harmonic intervals arrive in measure 2, beat 2, where the upper parts have E♭4 and E♭5 and the lower parts sound C3, E♭3, and C4. The simple interval (eliminating the octaves) between the bass part's C and the E♭ above is a m3, a consonant interval. The M6 between E♭3 and C4 is also consonant.

At the end of measure 2, though, the bass's C3 to F4/F5 is a P4, which sounds dissonant—especially because it is accompanied by another dissonant interval, E♭3 to F4/F5, a major ninth. This motion from consonance to dissonance creates forward momentum into the next measure.

In measure 3, consider the intervals between the C♭ in the bass and the G♭, G♮, A♭, and A♮ in the melody: P5 (consonant), A5 (dissonant), M6 (consonant), and A6 (dissonant), respectively. In addition, there is a dissonant tritone (A4) in the last chord in measure 3 between the E♭ and A♮. When the A6 and A4 connect by step to the consonant intervals of measure 4—the A6 (C♭–A♮) moves outward to a P8, and the A4 (E♭–A♮) moves outward to a m6—the tension that has built up over this passage is released. The motion from a dissonant interval to a consonant one, its resolution, provides this release.

One critical element that defines any given musical style is the way composers handle consonant and dissonant intervals. As you heard in earlier examples, the dissonant interval of a seventh resolves to a consonance in the tonal music of

Handel (in the first half of the eighteenth century), but does not resolve at all in the nontonal pieces of Webern (in the first half of the twentieth century) and may not resolve in jazz or popular music either.

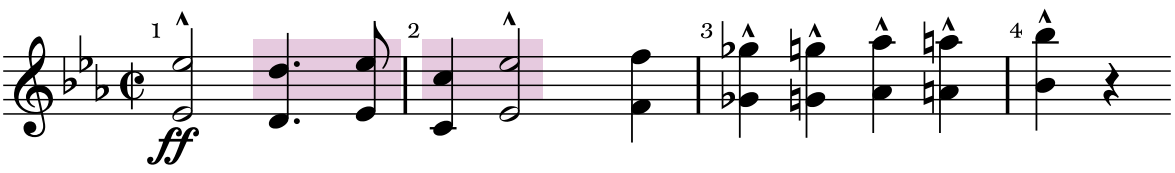
SUMMARY

- Consonant intervals: unison, 3, 5, 6, 8
- Dissonant intervals: 2, 7, any augmented or diminished interval
- Special case: P4 (usually treated as a consonance melodically and a dissonance harmonically)

Analyzing Intervals in Music

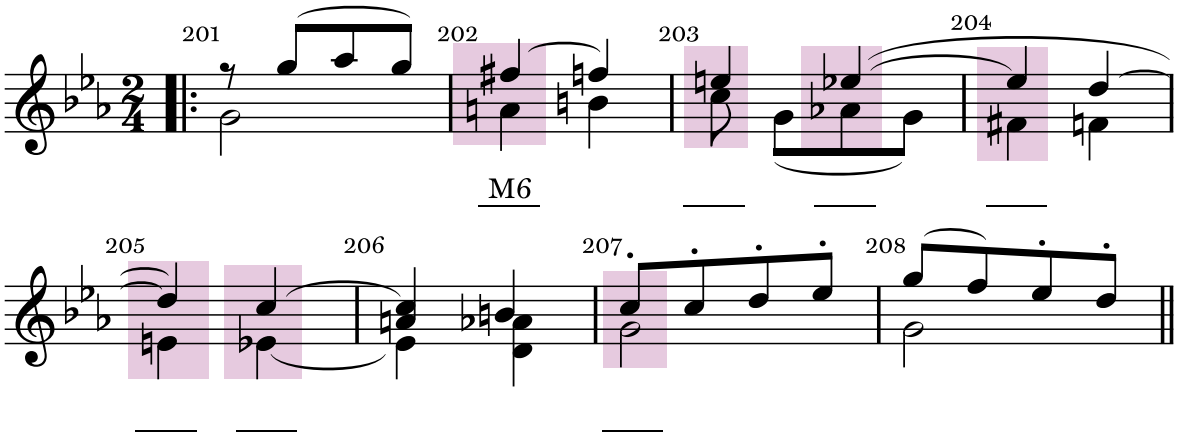
When you are identifying intervals in music with a key signature, always consider both the key signature and any accidentals that appear in a measure. For example, the shaded notes in measures 1–2 of Example 6.18 are D–E♭ (m2) and C–E♭ (m3), not D–E (M2) and C–E (M3). In measure 3, there are accidentals on almost every note: the natural on the second quarter note is necessary to cancel the previous G♭, and the natural on the last quarter note cancels the A♭ of the key signature. This passage ends entirely with melodic half steps—a segment of the chromatic scale.

EXAMPLE 6.18: Sousa, "The Stars and Stripes Forever" (melody), mm. 1–4



Musical scores sometimes include "courtesy" accidentals that aren't entirely necessary. For example, in measure 203 of Mozart's *Variations* (Example 6.19), a flat sign appears next to the A♭ on beat 2, even though this flat appears in the key signature. The notated flat is not really needed to cancel the A♮ of the previous measure, because the bar line automatically cancels it; this A♭ is a courtesy accidental, there to remind the performer to play the right note. Also in measure 203, the E♭ on beat 2 is tied over to the first beat of measure 204; here the accidental stays in effect through the tie (even though it crosses the bar line).

EXAMPLE 6.19: Mozart, *Variations on "Ah, vous dirai-je Maman,"* Variation 8, mm. 201–208 (right hand only)



Try it #6

Listen to Variation 8 of Mozart's *Variations on "Ah, vous dirai-je Maman,"* paying particular attention to the harmonic intervals formed in the right hand of measures 201–208. Analyze each shaded interval in Example 6.19, and write its name in the blanks below the staves.

SUMMARY

SUMMARY

- Be mindful of the flats or sharps in the key signature plus any accidentals added in the score when determining interval qualities.
- Remember that accidentals normally apply through the end of the measure unless another accidental cancels them.
- If a note with an accidental is tied over a bar line, the accidental continues in effect to the end of the tie. Courtesy accidentals may be included to remind performers that an accidental indicated in the key signature is back in effect.

Did You Know?

Many writers from the Middle Ages (c. 500–1430) and Renaissance (c. 1430–1600) attribute the characterization of "perfect intervals" to the famous Greek mathematician Pythagoras (sixth century BCE), who was said to have discovered mathematical ratios by listening to smiths striking anvils with hammers in a blacksmith's shop and noticing that when the sizes of the hammers were in a ratio of 2:1, an octave sounded. (This oft-repeated legend, though, is not true: the sounds produced would be determined by the size of the anvils, not the hammers.) In any case, from the time of Pythagoras, perfect intervals were considered beautiful because of their mathematical ratios, which could also be demonstrated on a plucked string. The octave described the relationship between a plucked full length of string and a string divided in half (2:1). The fifth described the relationship between the full string and a string two-thirds the original length (3:2). And the fourth resulted when

the sound of the full string was compared with that of a string three-fourths its length (4:3). The difference between the ratio numbers in each case is 1 (2–1, 3–2, and 4–3): mathematicians call these “superparticular” ratios. The purity of these intervals’ sound and the beauty of their ratios have resulted in our term “perfect” for the octave, fifth, and fourth.

TERMS YOU SHOULD KNOW

compound interval
consonance
• imperfect
• perfect
dissonance
enharmonically related interval
interval
• harmonic
• melodic
interval quality
• major
• minor
• perfect
• augmented
• diminished
interval size
inversionally related interval
melodic interval
tritone
unison

QUESTIONS FOR REVIEW

1. What information is missing when only an interval's size is given?
2. Which interval sizes are considered consonant? dissonant?
3. What is the difference between a major and a minor interval of the same size (for example, M6 and m6)?
4. What is the interval called that is one chromatic half step smaller than a minor interval? one chromatic half step larger than a major interval?

5. What is the interval called that is one chromatic half step smaller than a perfect interval? one chromatic half step larger than a perfect interval?
6. Name as many enharmonically equivalent intervals to C♯–E as you can.
7. Examine the melodic intervals between pitches in a phrase of a piece you perform. Which interval size appears most often? What is the largest interval?

Know It? Show It!

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7 Triads

Outline

Chords and triads
- Triad qualities in major keys
- Triad qualities in minor keys

Spelling triads
- By interval
- By the C-major method
- By key signature

Triad inversion

Figured bass

Triads in popular-music notation

Overview

In this chapter, we combine intervals to form triads. We will identify triad types and learn how they function in musical contexts.

Repertoire

Johann Sebastian Bach, “O Haupt voll Blut und Wunden” (“O Head, Full of Blood and Wounds”)

Arcangelo Corelli, Sonata in D Minor, Op. 4, No. 8, Preludio

Barry Gordy, Hall Davis, Willie Hutch, and Bob West, “I’ll Be There”

George Frideric Handel, Chaconne in G Major

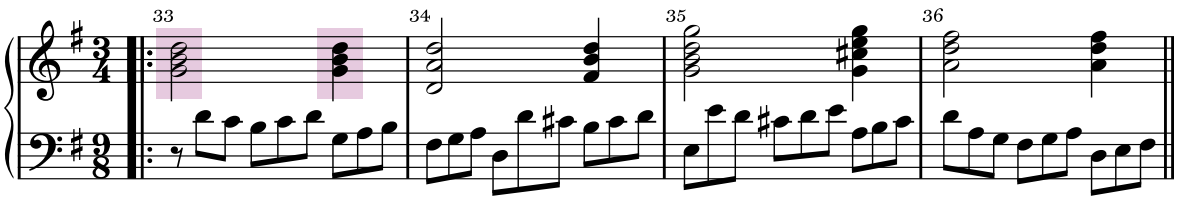
William “Smokey” Robinson and Ronald White, “My Girl”

“St. George’s Windsor” (“Come, Ye Thankful People, Come”)

Chords and Triads

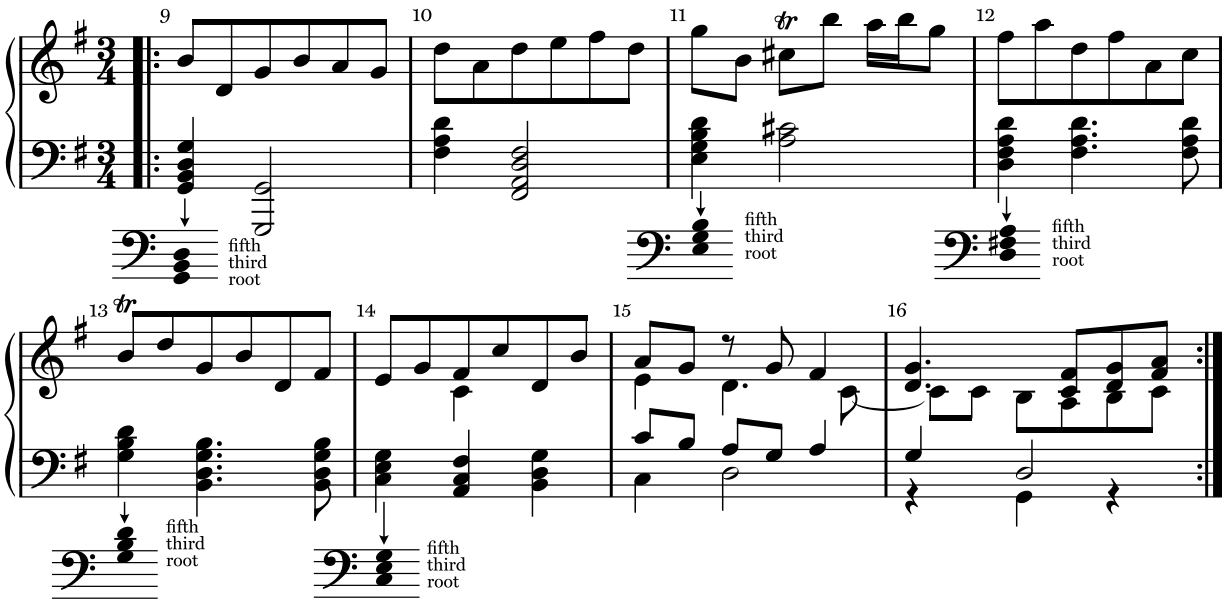
Listen to Example 7.1, from Handel's Chaconne in G Major. This work is a series of variations, each of which varies the rhythmic patterns, melody, and other features of the first eight measures (the "theme"). The shading in the right hand of Example 7.1 highlights the main topic of this chapter: the triad.

EXAMPLE 7.1: Handel, Chaconne in G Major, Variation 4, mm. 33–36



KEY CONCEPT Two or more intervals sounding together form a **chord**. The pitches in a chord usually sound all at once, but they may also appear in succession. Three-note chords that can be represented as two thirds, one above the other, are called **triads**.

The shaded triad in measure 33, G-B-D, is made of two simultaneous thirds (G-B and B-D), written one above the other. In this particular spacing, you can recognize triads easily by their position on the staff as line-line-line or space-space-space. Example 7.2 shows additional triads stacked in thirds in the left hand of Variation 1: on the downbeats of measures 9 and 11–14. You will also see in the right hand of measures 9, 12, and 13 how the notes of a triad might be spread out, or **arpeggiated**, to form a melody.

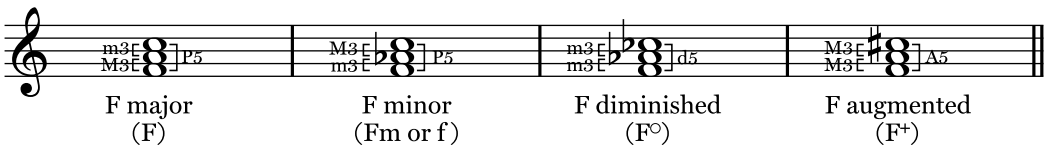
EXAMPLE 7.2: Handel, Chaconne, Variation 1, mm. 9–16

KEY CONCEPT When triads are spelled in thirds, the interval between the lowest pitch (the root) and the highest (the **fifth**) is a fifth. The middle pitch, the **third**, lies a third above the root. When the root is in the lowest-sounding voice, the triad is in **root position**.

All chords marked with arrows in Example 7.2 are in root position. We speak of the root, third, and fifth of a triad, though, even when the triad is not arranged in thirds. We will return to the Handel variations later in this chapter to analyze some of these non-root-position chords.

Example 7.3 shows four root-position triads that differ in **quality**. The **major triad** has a M3 between its root and third and a m3 between its third and fifth, while the **minor triad** has the opposite—a m3 between root and third and a M3 on the top. In both major and minor triads, there is a P5 between the root and fifth. The **diminished triad** is made up of two minor thirds

and a d5, and the **augmented triad** two major thirds and an A5. Triads, as here, are named by the letter name of their root combined with their quality, or abbreviated so that the capital letter name alone stands for major; an added small "m" (or a lowercase letter) stands for minor; and a ° for diminished and + for augmented.

EXAMPLE 7.3: Triad quality: Major, minor, diminished and augmented



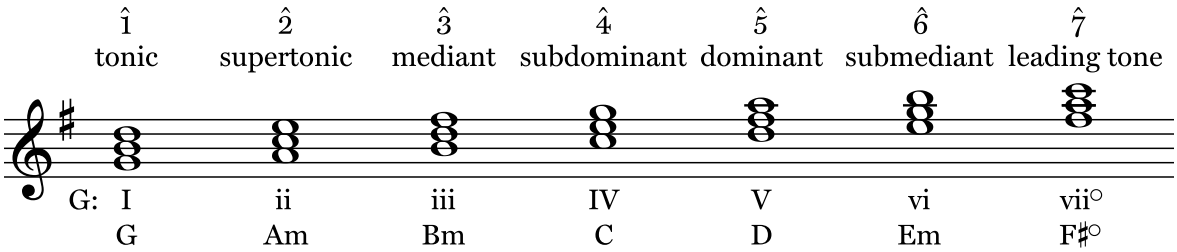
Triad Qualities in Major Keys

In Example 7.4, triads are written above each note of the G major scale, along with several ways to label these chords. You can refer to triads in a certain key by the scale degree on which they are built (for example, the triad on $\hat{2}$) or by their scale-degree name. ("Tonic," "subdominant," "dominant," and so on refer both to the scale degrees and to the triads built on them.) Note also the Roman numerals below the staff.

KEY CONCEPT Roman numerals are a handy way of labeling both a chord's scale-degree position (I to vii°) and its quality: a capital numeral indicates a major triad (I, IV, V), and a lowercase numeral a minor triad (ii, iii, vi). For diminished triads, add a small raised (superscript) circle to the lowercase numeral (vii°); for augmented triads, add a small + to the capital numeral (III^{+}). When using Roman numerals, always indicate the key to the left (as in Example 7.4), to place the numerals in context. Write a

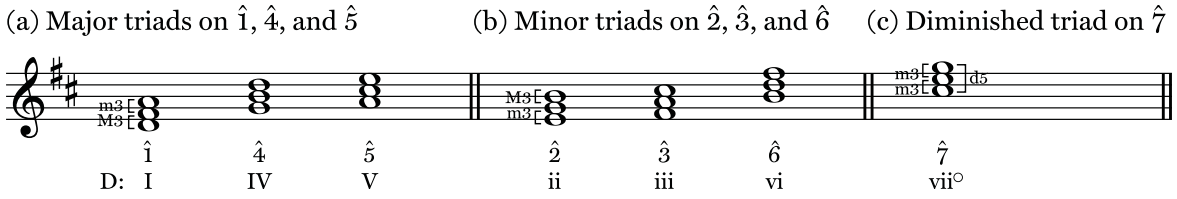
capital letter for major keys and a lowercase letter for minor keys.

EXAMPLE 7.4: Triads above each scale degree in G major



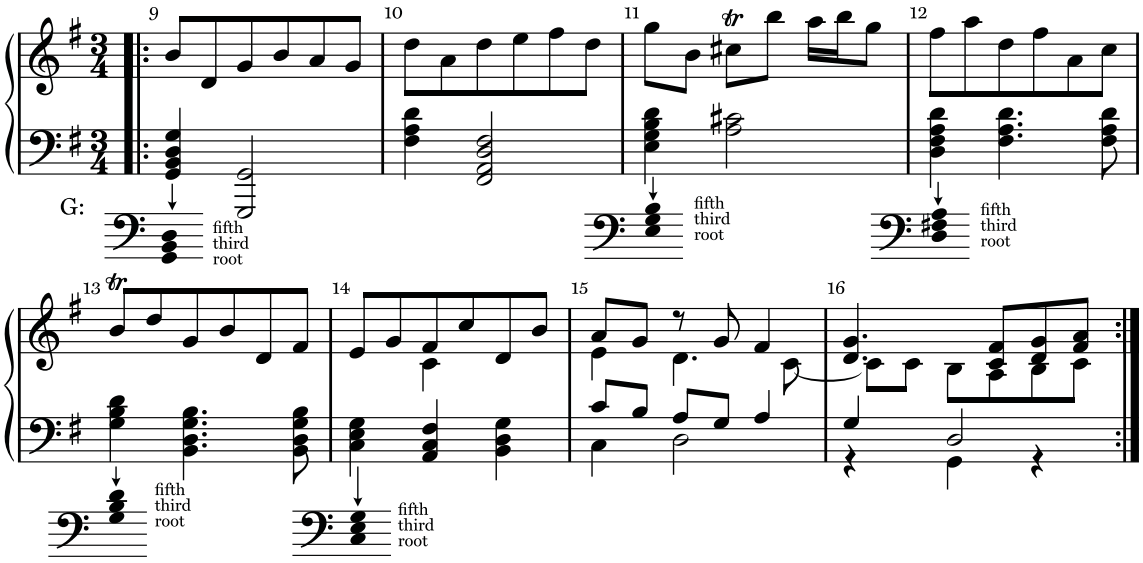
Example 7.5 shows **scale-degree triads**–triads within a certain key context–listed by quality, with the major triads together and minor triads together. Memorize which triads are of which quality in major keys; this will help you write Roman numerals correctly.

EXAMPLE 7.5: Triad qualities in major



Try it #1

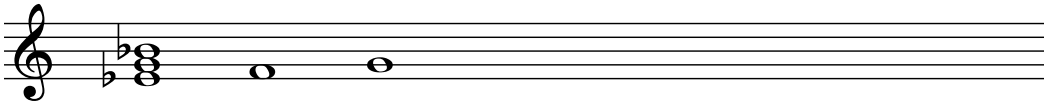
(a) For each chord specified below the example, write the root's scale-degree number and the triad's Roman numeral in the blanks. Refer to Example 7.4 to help you.

Show answers

Scale degree m. 9: $\hat{1}$ m. 11: _____ m. 12: _____ m. 13: _____ m. 14: _____

Roman numeral m. 9: I m. 11: _____ m. 12: _____ m. 13: _____ m. 14: _____

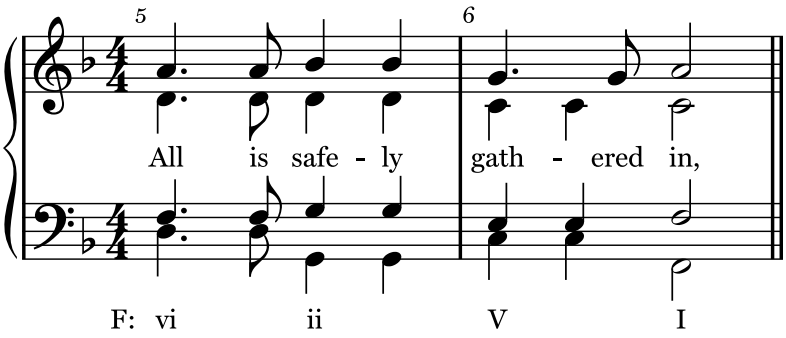
(b) Complete the E♭ major scale below, and write the appropriate triad above each scale degree. Use whole notes, and add accidentals next to the note as needed. Label each triad's quality in the first row of blanks: M, m, or d. Then write Roman numerals beneath.

Show answers



Roman numerals written below the staves of a musical score provide a highly effective way to analyze patterns and the progression of chords in a composition. Those in Example 7.6 show root-position major and minor triads in a hymn texture. When you analyze music, keep in mind that not all triads carry equal structural weight, and some (such as I and V) appear much more often than others. Not all scale-degree triads are equal!

EXAMPLE 7.6: Triads in "St. George's Windsor," mm. 5–6

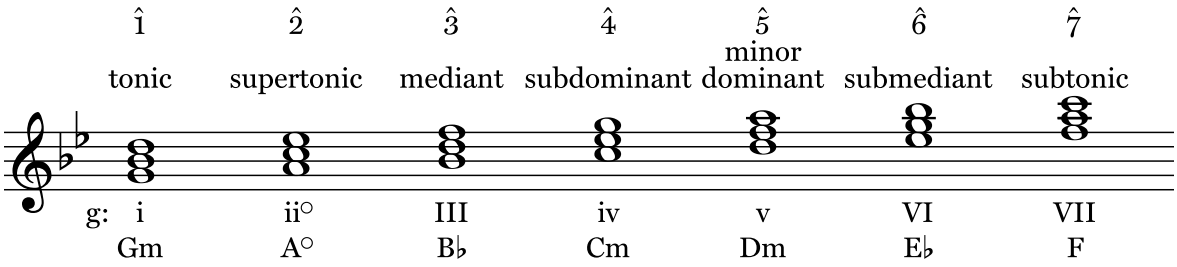


Triad Qualities in Minor Keys

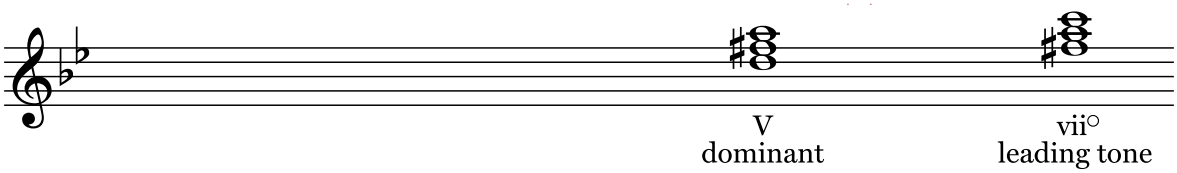
Triads built above the scale degrees of a natural minor scale have their own set of qualities, as shown in Example 7.7a. Triads on $\hat{1}$, $\hat{4}$, and $\hat{5}$ are minor, those on $\flat\hat{3}$, $\flat\hat{6}$, and $\flat\hat{7}$ are major, and the triad on $\hat{2}$ is diminished. But when you raise the seventh scale degree to create a leading tone (as you almost always do when writing in a minor key), the triads on $\hat{5}$ and $\hat{7}$ become major and diminished in quality, respectively (part b). Part (c) shows how the leading tone affects the quality of the mediant triad; this usage is rare and you should avoid writing it. Compare Examples 7.4 and 7.7 to see the differences between parallel keys.

EXAMPLE 7.7: Triads above each scale degree in G minor

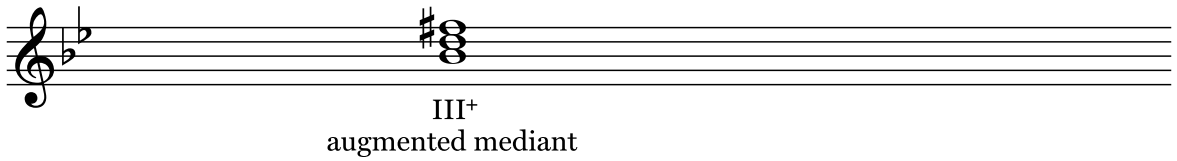
(a) Natural minor:



(b) With the leading tone to create V and vii° (common):



(c) With the leading tone to create III+(rare)



SUMMARY

In major keys,

- triads on scale degrees î, k̂, and l̂ are major;
- triads on ĵ, m̂, and n̂ are minor;
- the triad on ô is diminished.

In minor keys (harmonic minor),

- triads on î and k̂ are minor;
- triads on l̂ and ♭n̂ are major;
- triads on ĵ and ô are diminished;

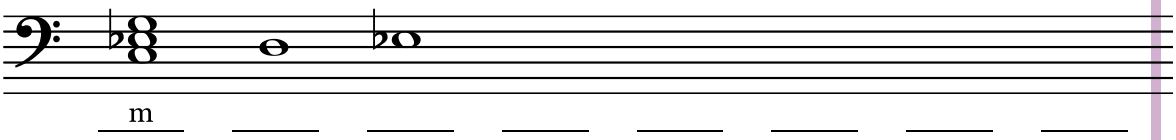
- the triad on ♭$\hat{3}$ is usually major, featuring the diatonic ♭$\hat{7}$ rather than the leading tone ($\hat{7}$).

Try it #2

Write the appropriate triad above each scale degree in C minor, adding accidentals before each note as needed. On the first staff, write all the triads in natural minor; on the second, add the appropriate accidental to spell a major triad on $\hat{5}$ and a diminished one on $\hat{7}$. Write the triad qualities (M, m, or d) in the blanks provided.

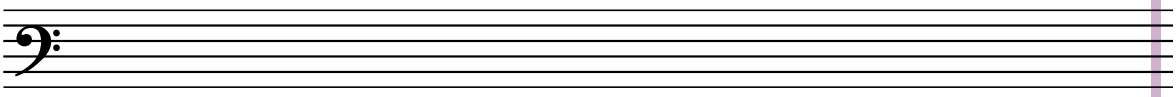
Show answers

Natural minor:



m _____ _____ _____ _____ _____ _____ _____ _____

With the leading tone:



_____ _____

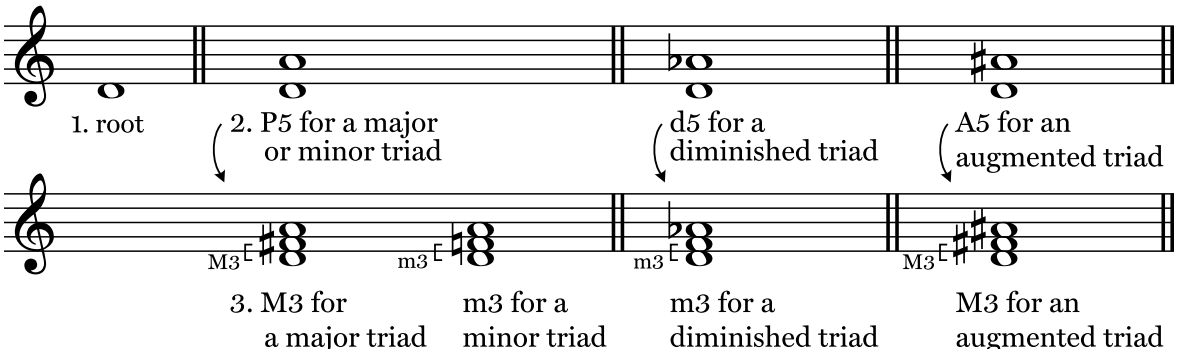
Spelling Triads

By Interval

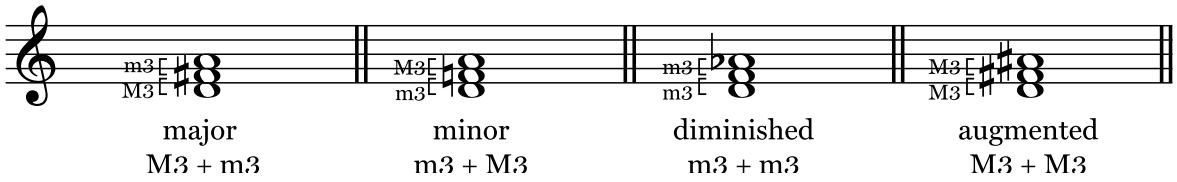
Example 7.8 summarizes the key points to remember when spelling triads as stacks of intervals. To help you learn to spell and identify triad qualities quickly, we provide other methods below; choose the one that works best for you.

EXAMPLE 7.8: Spelling isolated triads by interval

(a) As fifths and thirds



(b) As stacked thirds



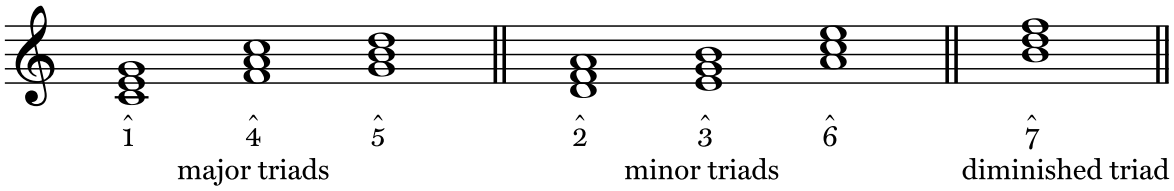
By the C-Major Method

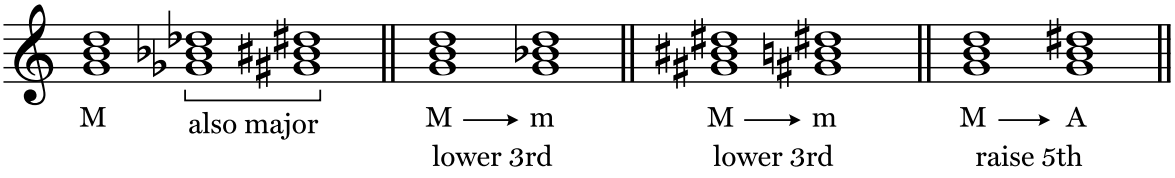
If you like to visualize triads on the keyboard or staff, first memorize the qualities of each triad in C major, as the piano white keys or plain note heads on the staff (Example 7.9a). Then use this information to build the other triad types, as in parts

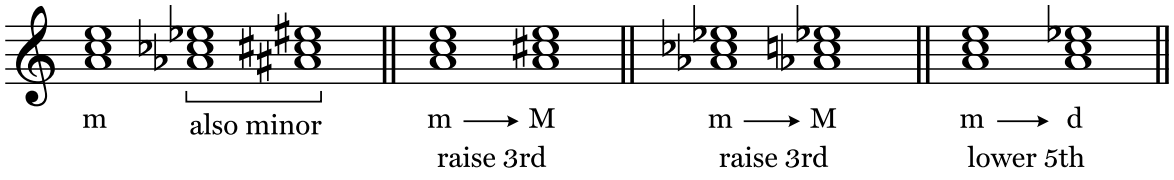
(b–d).

EXAMPLE 7.9: Spelling isolated triads from C major qualities

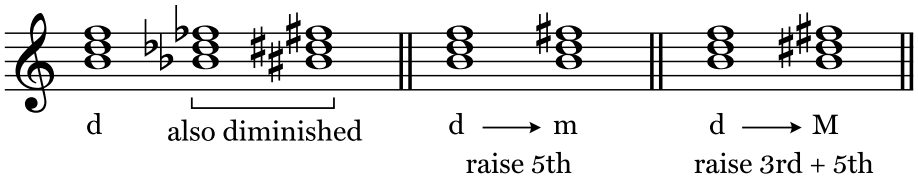
(a) White-key triads



(b) Triads on C, F, and G remain major if all the accidentals match. To change to a minor triad, lower the third a chromatic half step (without changing the letter name). To change to an augmented triad, raise the fifth a chromatic half step.

(c) Triads on D, E, and A remain minor if all the accidentals match. To make a major triad, raise the third a chromatic half step. To change to a diminished triad, lower the fifth a chromatic half step.



(d) Triads on B remain diminished if all the accidentals match. To make a minor triad, raise the fifth a chromatic half step. To make a major triad, raise both the third and fifth a chromatic half step.



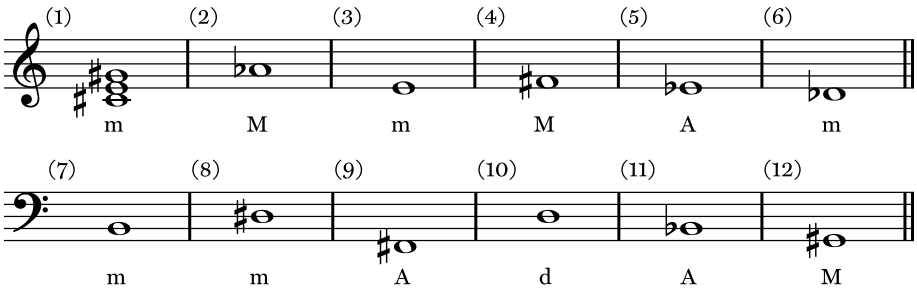
By Key Signature

Yet a third way to spell triads is by thinking of key signatures. Imagine the root of a major or minor triad as the tonic in a key; the upper notes lie in the scale.

- For a major triad, think of the root's major key signature and write $\hat{1}$, $\hat{3}$, and $\hat{5}$.
- For a minor triad, think of the root's minor key signature and write $\hat{1}$, $\flat\,\hat{3}$, and $\hat{5}$.
- Spell a diminished triad by lowering the fifth of a minor triad a chromatic half step.
- Spell an augmented triad by raising the fifth of a major triad a chromatic half step.

Try it #3

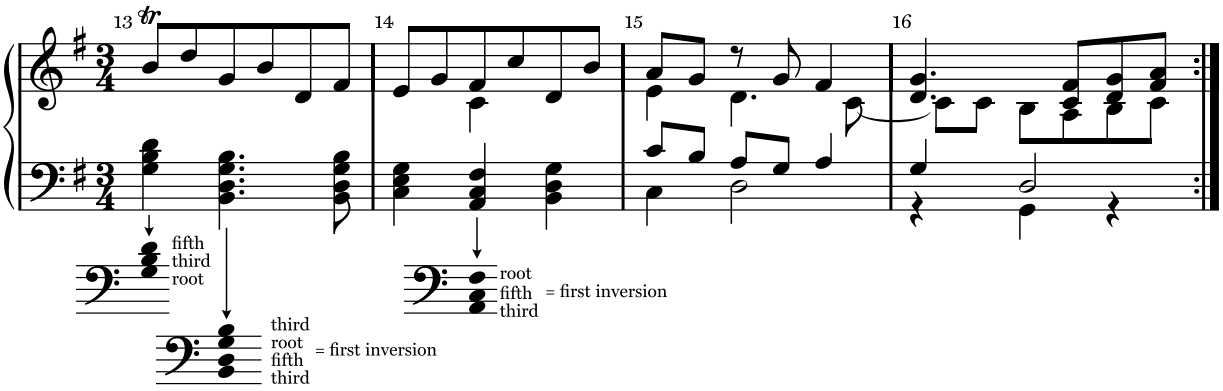
Spell the following triads, by any method you choose. **Show answers**


(1)
(2)
(3)
(4)
(5)
(6)
m
M
m
M
A
m
(7)
(8)
(9)
(10)
(11)
(12)
m
m
A
d
A
M

Triad Inversion

Listen again to a passage from the Handel Chaconne (Example 7.10) to hear several triads that are not in root position.

EXAMPLE 7.10: Handel, Chaconne, Variation 1, mm. 13–16



In measure 13, beat 1, the root of the bass-clef triad appears in the bass. On beat 2, the chord tones G-B-D are the same, but now B2, the third, is the lowest voice. This triad—no longer in root position—is **inverted**.

KEY CONCEPT If the root of a triad is the bass (as we have seen), the triad is in **root position**. Otherwise, the triad is in inversion.

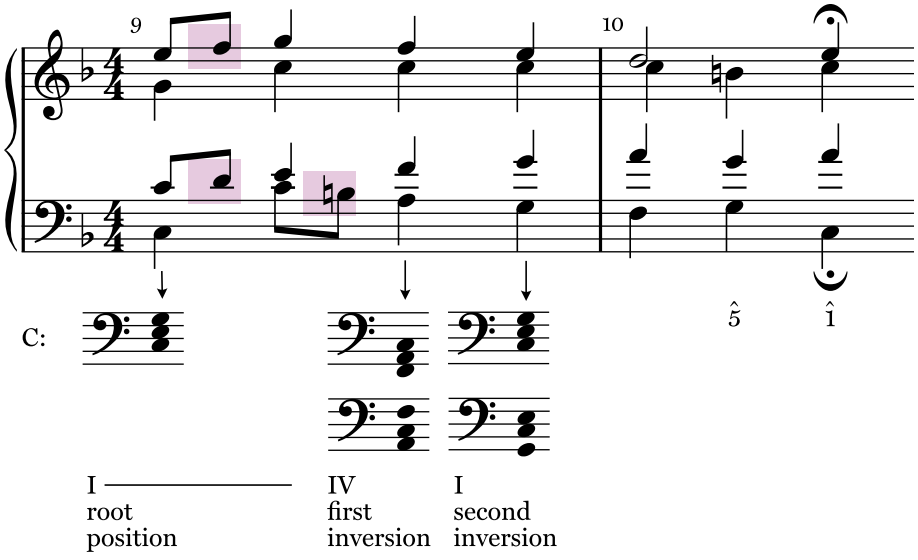
- If the third is the bass, the triad is in **first inversion**.
- If the fifth is the bass, the triad is in **second inversion**.

Be careful not to confuse the terms "root" and "bass": any member of a triad—root, third, or fifth—may sound in the bass (lowest) voice.

The second-inversion triad is inherently weaker than root position or first inversion, because of its dissonant harmonic fourth between the bass and an upper voice. In later chapters, we will write it only in specific musical contexts, and never in a position of functional harmonic strength.

For a musical example with triads in all three positions, look at measure 9 from Bach's "O Haupt voll Blut und Wunden" (Example 7.11). Although the chorale begins and ends in F major, this short passage is in C major (every B has a natural sign, and the bass line begins with $\hat{1}$ and ends with $\hat{5}$–$\hat{1}$ in C). Since beats 1 and 2 of measure 9 express a C major harmony, with C in the bass (root position), label both with the Roman numeral I (disregard for now the shaded eighth-note offbeats). Beat 3 is an F-A-C harmony, with A (the third) in the bass: a IV chord in first inversion. Another C major chord appears on beat 4, but this time with the fifth, G, in the bass: the I chord in second inversion.

EXAMPLE 7.11: Bach, "O Haupt voll Blut und Wunden," mm. 9–10



To help identify the root and Roman numeral of an inverted

triad, think about how the pitches of the chord would be notated if they were in root position. You might write the pitch classes on a separate staff and stack them in thirds, as in Example 7.11. Eventually, you'll be able to do this quickly in your head.

KEY CONCEPT To identify the root of an inverted chord, look for the interval of a fourth. The upper note of the fourth is the root.

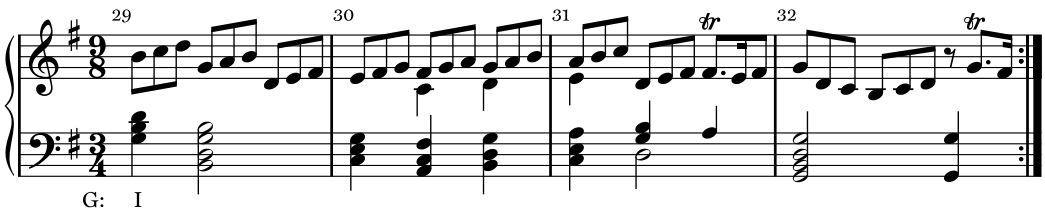
Verify this principle for yourself by looking at the small staves below Example 7.11. In the F-A-C chord (m. 9, beat 3), C is below F; the F (the top of the fourth) is the root of this chord. On beat 4, C-E-G, G appears below C; C (the top of the fourth) is the root.

Try it #4

Identify the Roman numeral and inversion for each left-hand triad specified below. Be sure that the Roman numeral shows the correct chord quality (major, minor, or diminished).

Handel, Chaconne, Variation 3, mm. 29–32

Show answers



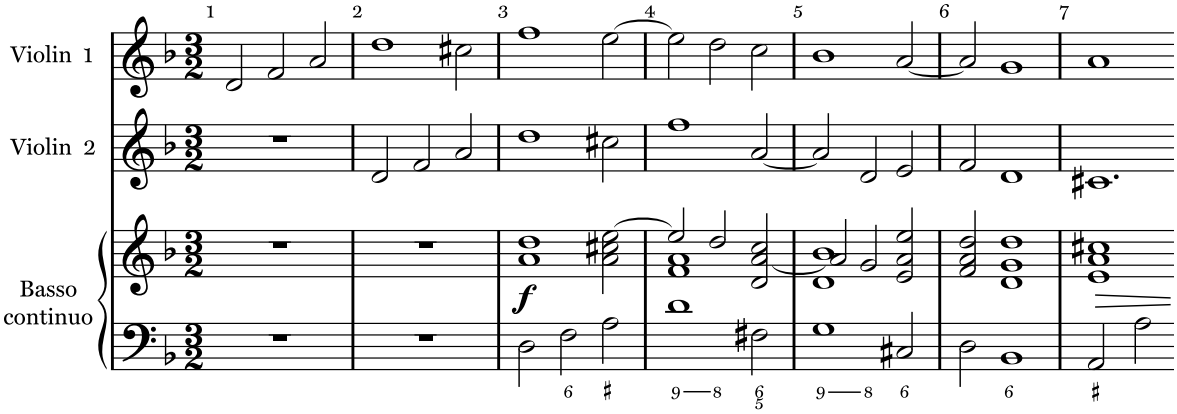
ROMAN NUMERAL	POSITION OR INVERSION

1. m. 30, beat 1	I	root
2. m. 30, beat 2		
3. m. 30, beat 3		
4. m. 31, beat 1		
5. m. 32, beat 1		

Figured Bass

The music shown in Example 7.12 comes from a Baroque-era chamber work for two violins and **basso continuo**—a keyboard accompaniment notated with figures below its bass line, which is doubled by a cello or another low instrument. Although the right-hand part is written out here, in Baroque practice these upper voices would normally be improvised by the performer from the figures below the bass line—the figured bass.

EXAMPLE 7.12: Corelli, Preludio, from Sonata in D Minor, mm. 1–7



KEY CONCEPT **Figured bass** consists of a bass line with numbers written under it or over it; the numbers represent the intervals to be played above the bass to make the chords.

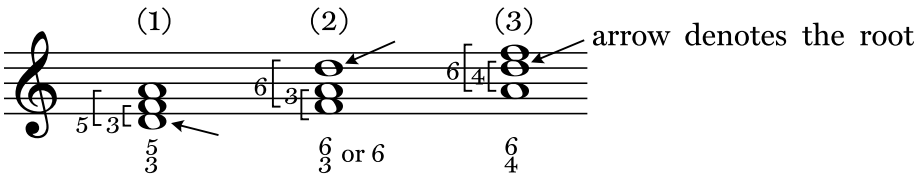
The figured-bass symbols for these intervals are given in Example 7.13. Chords in root position are indicated with the numerals 5 and 3. In performance, the fifth and third might be played in various ways: spaced as compound intervals, or with one of the pitches played in two different octaves (doubled) to

make four parts (part b). Such details are not specified in the basic label for the chord, but are determined by the performer and by stylistic conventions.

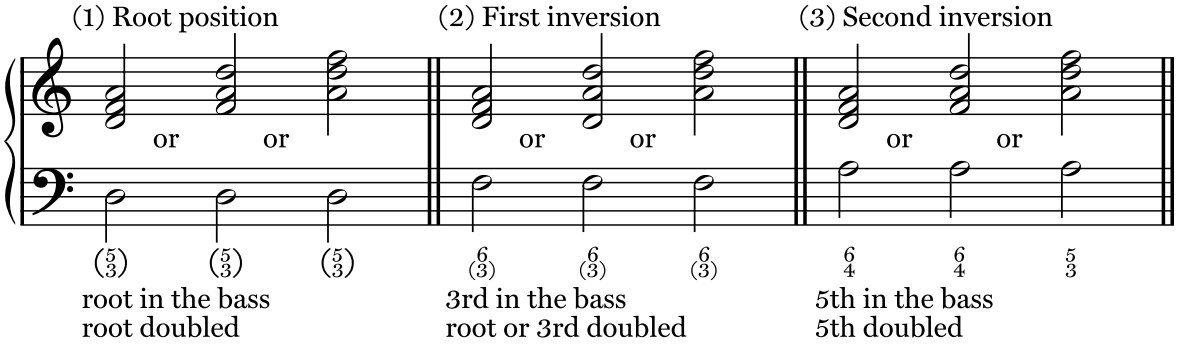
When a triad is in first inversion, the intervals above the bass are a sixth and a third, represented with a 6 and 3. If the fifth is in the bass (second inversion), the intervals are a sixth and a fourth, represented by 6 and 4. As mentioned earlier, the second inversion is the least common and least stable chord position because of the dissonant fourth above the bass.

EXAMPLE 7.13: Figured bass for triads

(a) Triads and inversions in three voices



(b) Triads and inversions in four voices (keyboard style)



Because Baroque keyboard players needed to read the bass line and figures quickly to know which intervals (and therefore

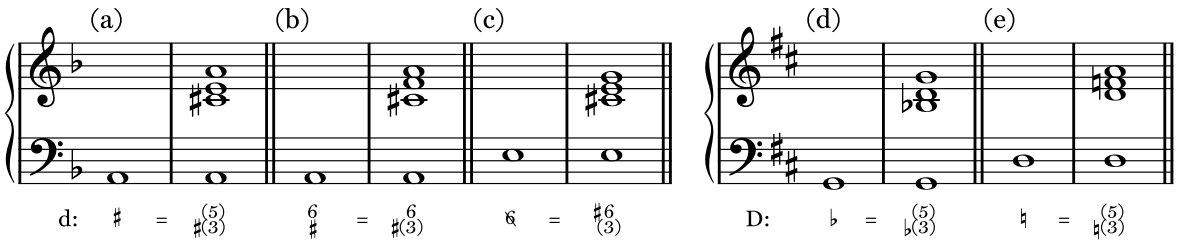
chords) to play, the figures were made simple. For example, since the $\frac{5}{3}$ figure was the most common, it was often left out; when performers saw a bass note without a figure (or with just 5), they assumed $\frac{5}{3}$. The figure $\frac{6}{3}$ was frequently shortened to just 6 (with 3 understood to be the remaining interval). For the less-usual second inversion, though ($\frac{6}{4}$), the full figure was given to avoid confusion with $\frac{6}{3}$.

KEY CONCEPT When playing or writing music from figured bass, use chord tones that are diatonic in the key (that fall within the relevant scale), unless an accidental appears in the figure—either by itself or next to a number (Example 7.14).

- By itself, an accidental always affects the note a third above the bass (not necessarily the third of the chord).
- Next to a number, an accidental tells you to alter that note; e.g., ♯6 means to raise the note a sixth above the bass a chromatic half step; ♭3 means to lower the note a third above the bass a chromatic half step.
- A slash through a number (6) means to raise the note (with either a ♯ or ♮ depending on the key).

In part (a) of Example 7.14, for instance, the lone sharp says to raise the third above the bass note A (making a C♯, the leading tone of D minor). In part (b), the player would perform a sixth above the bass (F) plus a raised third (C♯). The figure for part (c) indicates a raised sixth (C♯), with the performer supplying a third (G). Parts (d) and (e) show a single accidental, each of which *lowers* the third above the bass. In all these examples, the bass note has been doubled in an upper voice to create a four-voice texture (we will learn more about doubling in Chapter 12).

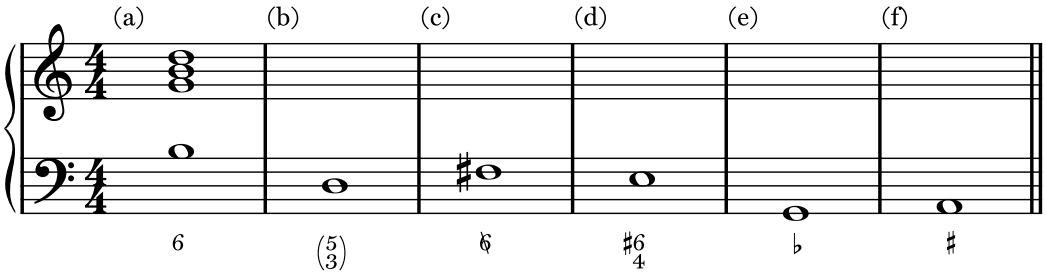
EXAMPLE 7.14: Reading figures



Try it #5

In the treble-clef staff, write the three notes (in whole notes) of the triad indicated by the bass and figures. Write all three notes of the triad (line-line-line or space-space-space) plus any accidentals specified.

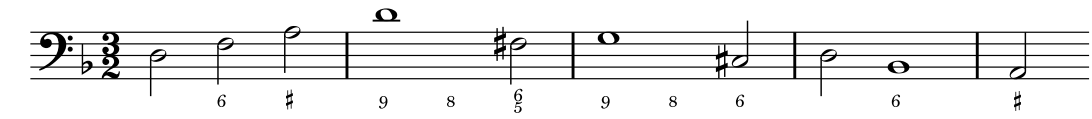
Show answers



You will sometimes use figures the way Baroque musicians did, to represent intervals over a bass line. But you will also often write figures to show the inversion of a chord—$\frac{5}{3}$ (or nothing) for root position, $\frac{6}{3}$ or ^{6} for first inversion, and $\frac{6}{4}$ for second inversion. When these figures are combined with Roman numerals, they identify the chord's scale degree, quality, and inversion—providing a lot of information in one space-saving label. When analyzing Baroque music with a figured bass, consider the figures to be part of the musical score; write your Roman numerals and inversions in a separate layer below them.

Try it #6

Try it #6

The bass line of Example 7.12 is reproduced below, with blanks underneath some of the figures. Write Roman numerals and inversions in the blanks (we will learn about the remaining figures in Chapters 8 and 10).

Key: d i ___ ___ ___ ___ ___ ___ ___

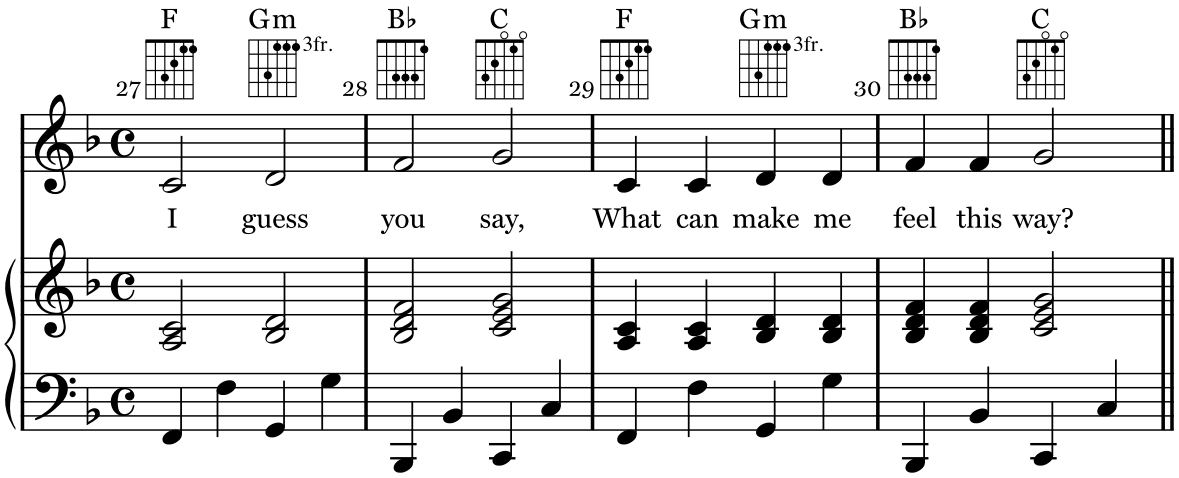
Triads in Popular-Music Notation

In popular music, harmonies are commonly notated with chord symbols above the melody line. This type of notation, usually called **lead-sheet notation**, is read by keyboard, bass, and other pop or jazz combo players. The capital letter name of the root is used for all triad types, with added symbols or abbreviations for qualities other than major. For example:

TRIAD TYPE	LEAD-SHEET NOTATION
F major	F
F minor	Fm, Fmin, or F-
F augmented	F^{+} or F(♯5)
F diminished	F○ or Fdim

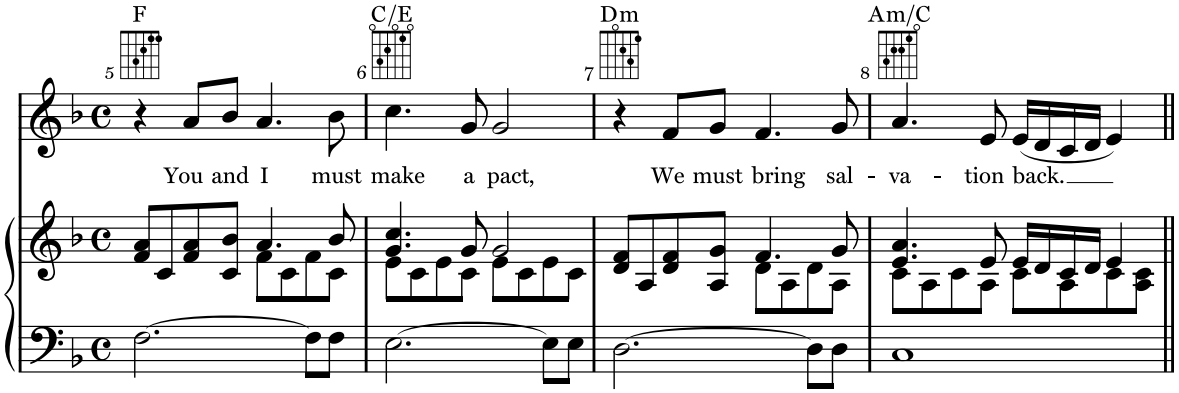
Often a lead sheet will show both the chord type and a fretboard diagram, which indicates guitar fingerings: the vertical lines represent guitar strings, the horizontal lines show the frets, and the black dots indicate where to place your fingers. Compare the accompaniment in Example 7.15, from Smokey Robinson's "My Girl," with the chord symbols and fretboard diagrams.

EXAMPLE 7.15: Robinson and White, "My Girl," mm. 27–30



Inverted triads are indicated with the triad type followed by a slash, then the letter name of the pitch that appears in the bass. Example 7.16 features first-inversion triads on alternate measures to create a bass line that descends by scale step. Here, a first-inversion C major triad (m. 6) is notated C/E, and a first-inversion A minor triad (m. 8) as Am/C. "Slash notation" can also be used when a note outside the triad appears in the bass, such as G/C: a G major chord with a C in the bass.

EXAMPLE 7.16: Gordy, Davis, Hutch, and West, "I'll Be There," mm. 5–8



Did You Know?

The idea of the invertible triad, with its three forms—root position, first inversion, and second inversion—first appears in writings about music in the early seventeenth century (the early Baroque era), but was not widely accepted among musicians until the mid-eighteenth century (at the end of the Baroque and beginning of the Classical era). The invertible triad was described by Otto Siegfried Harnish (c. 1568–1623) in 1608, and the term *trias harmonica* (harmonic triad) was used by Johannes Lippius (1585–1612) in 1610. Lippius, a Christian theologian and musician, characterized the triad as being like the Holy Trinity: three elements but also one.

The French composer Jean-Philippe Rameau (1683–1764) is often credited with the idea of chord inversion, because his controversial writings (published between 1722 and 1760) brought this idea to the forefront at a time when the music being composed was increasingly built on chords rather than independent lines. Rameau labeled the chords with a separate bass-clef staff underneath the music, where he wrote in the roots of each chord; this practice was called "fundamental bass," not to be confused with figured bass. Roman numerals were not used for analysis until after Rameau's death.

TERMS YOU SHOULD KNOW

chord
- root
- third
- fifth

figured bass
fretboard diagram
inversion
- first inversion
- second inversion

lead-sheet notation
triad
- major
- minor
- augmented
- diminished

QUESTIONS FOR REVIEW

1. Describe two different ways of spelling each of these triad types from a given root: major, minor, diminished, and augmented.
2. Given the same root, which interval or intervals differ in the following pairs of triads: major and minor, major and augmented, minor and diminished, minor and augmented?
3. What are the differences between the following ways of labeling triads: chord quality, figured bass, Roman numeral, lead sheet?
4. How does figured bass show first inversion? second

inversion? a raised third? a lowered sixth?

5. How does a lead sheet show inversion?
6. Find a piece in your repertoire with a fairly simple rhythm (preferably chordal) and no accidentals. Alternatively, choose a hymn from the anthology. Pick a few measures to analyze three ways: (a) chord root, quality, and inversion; (b) Roman numeral and inversion; (c) lead-sheet symbols.

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8 Seventh Chords

Outline

Seventh chords

- Diatonic seventh chords in major keys
- Seventh chords in inversion
- Diatonic seventh chords in minor keys
- Spelling seventh chords

Seventh chords in popular styles

- Less common seventh chords

Triads and seventh chords in musical textures

- Arpeggiated triads and seventh chords
- Triads and seventh chords in transposing scores
- Seventh chords and musical style

Overview

This chapter explains how to spell and label seventh chords. We consider different musical contexts for seventh chords, look at how triads and seventh chords are arpeggiated, and learn to read them in transposing scores.

Repertoire

Johann Sebastian Bach, Prelude in C Major, from *The Well-Tempered Clavier*, Book 1

Gerry Goffin and Michael Masser, “Saving All My Love for You”

Joseph Haydn, Concerto in D Major for Horn and Orchestra, mvt. 1

Edward Heyman and Victor Young, “When I Fall in Love”

Wolfgang Amadeus Mozart

Piano Sonata in C Major, K. 545, mvt. 1

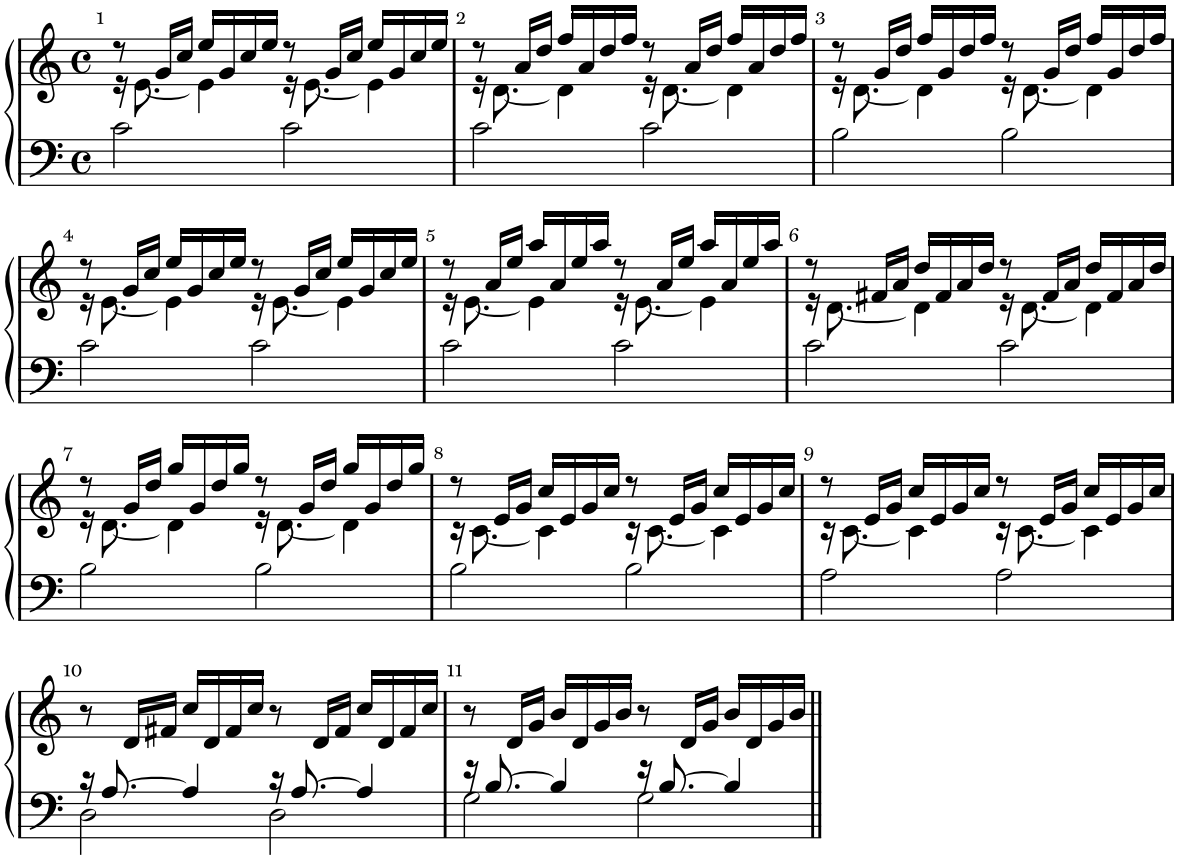
“Voi, che sapete” (“You who know”), from *The Marriage of Figaro*

Seventh Chords

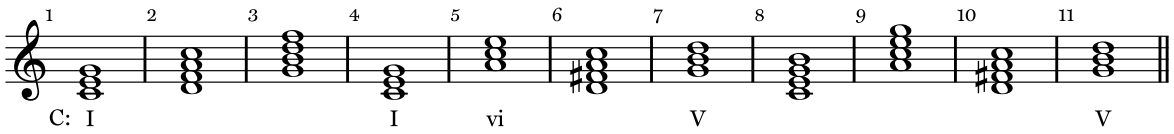
Listen to Example 8.1a, the opening measures of a prelude for keyboard by J. S. Bach. The beauty of this piece comes from the ordering of its triads and seventh chords, the artful way they are connected, and the delicate manner in which individual notes are brought out in the texture. Each measure consists of only one type of chord (notated in root position in part b).

EXAMPLE 8.1: Bach, Prelude in C Major

(a) Mm. 1–11



(b) Root-position chords in mm. 1–11



The triads in measures 1, 4, 5, 7, and 11 should be familiar: they are C major, A minor, and G major triads, or the tonic, submediant, and dominant chords in the key of C major. The other chords (without Roman numerals) contain four pitches—an additional third has been added on top of the triad. These are called seventh chords, because the distance from the root to the top note is a seventh.

KEY CONCEPT **Seventh chords** consist of four notes—a root, third, fifth, and seventh—and are named by the quality of the triad plus the quality of the seventh measured from the root. For example, a **major-major seventh** chord (MM7), or **major seventh** for short, has a major triad and a major seventh.

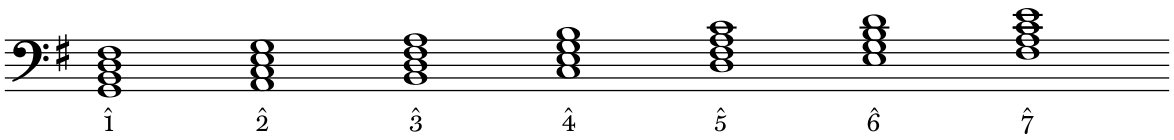
There are several qualities of seventh chords in the Bach passage. The chord in measure 2 consists of a D minor triad plus a C, which forms a minor seventh from the root (D–C)—making a **minor-minor seventh** chord (mm7), or **minor seventh** for short. In measure 3, the G major triad plus an F, a combination of major triad and minor seventh (G–F), makes a **major-minor seventh** chord, usually called a **dominant seventh** (Mm7).

Diatonic Seventh Chords in Major Keys

You can build a seventh chord above each note in a major or minor scale by adding a third above the scale-degree triad.

Example 8.2 shows all the possibilities in the key of G major.

EXAMPLE 8.2: Seventh chords built above the G major scale



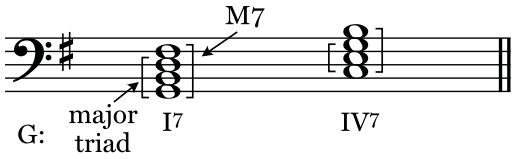
Triad quality:	M	m	m	M	M	m	d
7th quality:	M	m	m	M	m	m	m
Full name:	major-major 7th	minor-minor 7th	minor-minor 7th	major-major 7th	major-minor 7th	minor-minor 7th	diminished-minor 7th
Common name:	major 7th	minor 7th	minor 7th	major 7th	dominant 7th	minor 7th	half-diminished 7th
Abbreviation:	MM7	mm7	mm7	MM7	Mm7	mm7	$\varnothing^7$
Roman numeral:	I^7	ii^7	iii^7	IV^7	V^7	vi^7	$vii^{\varnothing 7}$

Example 8.3 groups the scale-degree seventh chords by chord type. Those built on $\hat{1}$ and $\hat{4}$ are major seventh chords (part a); those built on $\hat{2}$, $\hat{3}$, and $\hat{6}$ are minor seventh chords (part b). The chord built on $\hat{5}$ (part c) is the only seventh with a major triad and a minor seventh: the dominant seventh chord, so called because it is built on the dominant scale degree.

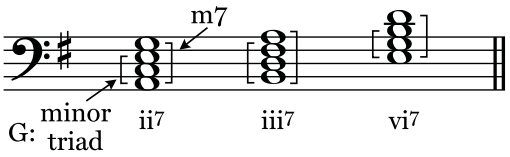
EXAMPLE 8.3: Scale-degree seventh chords in major keys

(a) (b) (c) (d)

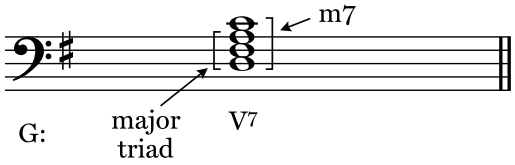
(a) Major seventh chords (MM7)



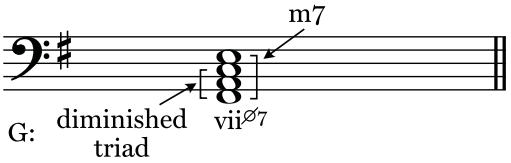
(b) Minor seventh chords (mm7)



(c) Dominant seventh chord (Mm7)



(d) Half-diminished seventh chord (ø7)



The remaining chord to consider in major keys is built on the leading tone (part d): a diminished triad and a minor seventh, called a **diminished-minor** or **half-diminished seventh** chord ("half" because there is a diminished triad but no diminished seventh). This is abbreviated with a small circle with a slash through it (ø7). As Examples 8.2 and 8.3 show, seventh chords

are often labeled with Roman numerals to indicate their scale-degree placement (and function) in the key. For example, the dominant seventh chord on $\hat{5}$ is labeled V^7, and the leading-tone seventh chord $vii^{\varnothing 7}$.

SUMMARY

In major keys:

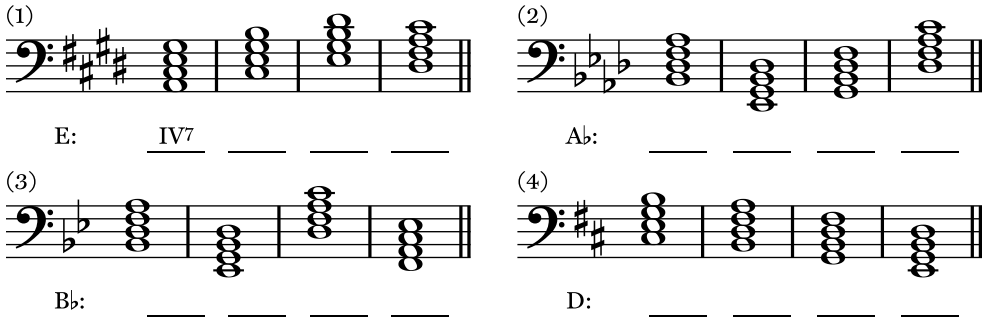
- Seventh chords on $\hat{1}$ and $\hat{4}$ are major sevenths (MM7)—I^7 and IV^7.
- Seventh chords on $\hat{2}$, $\hat{3}$, and $\hat{6}$ are minor sevenths (mm7)—ii^7, iii^7, and vi^7.
- The seventh chord on $\hat{5}$ is a dominant seventh (Mm7)—V^7.
- The seventh chord on $\hat{7}$ is half diminished ($^{\varnothing 7}$)—$vii^{\varnothing 7}$.

Try it #1

A. Label each seventh chord with its appropriate Roman numeral.

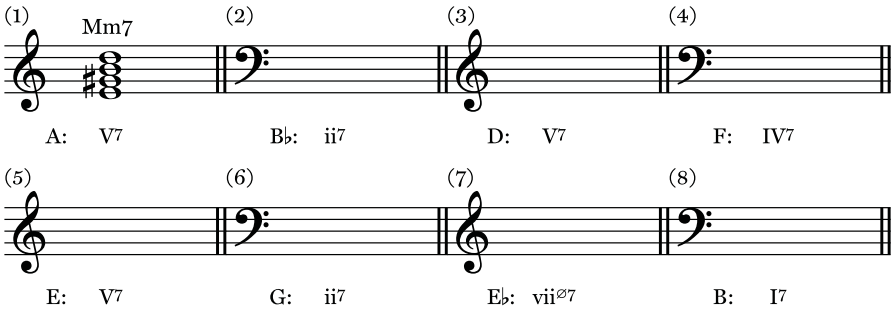
(1) (2) (3) (4)

Show answers



B. Write each of the following seventh chords in the major key specified, using accidentals rather than a key signature. Then identify the type of chord (e.g., mm7) above the staff.

Show answers

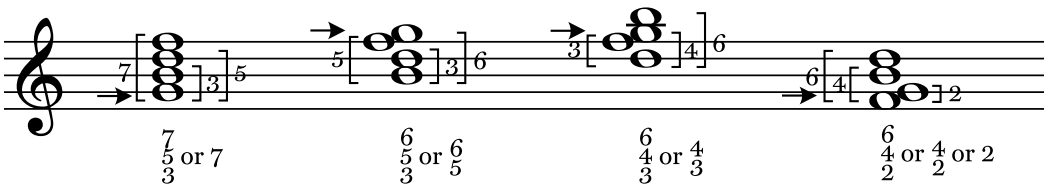


Seventh Chords in Inversion

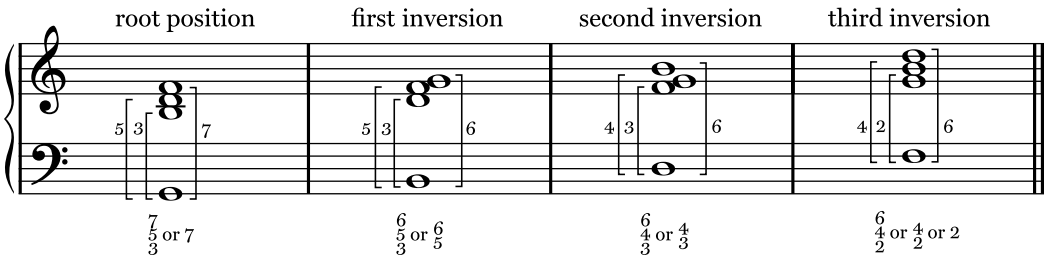
Like triads, seventh chords can be written in an inversion as well as in root position. Example 8.4 gives the figured-bass symbols (both the complete figures and the standard abbreviated versions) for inverted seventh chords, measured as intervals above the bass. Abbreviated figures always show the location of the second: to locate the root of an inverted seventh chord (marked with an arrow in the example), find the upper note of the second.

EXAMPLE 8.4: Figured bass for seventh chords

(a) A seventh chord and its inversions on the treble staff (arrow marks the root)



(b) A seventh chord and its inversions on the grand staff



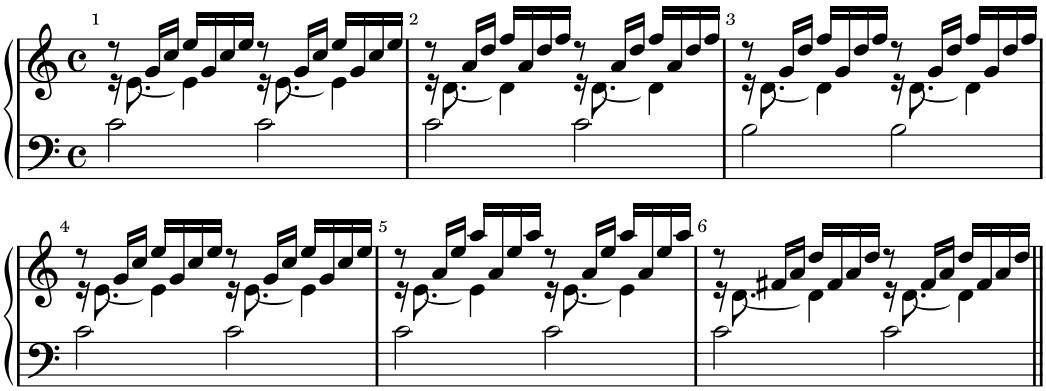
KEY CONCEPT Figured-bass symbols for seventh chords, as for triads, are usually simplified: ^{7} for root position, $\frac{6}{5}$ for first inversion, $\frac{4}{3}$ for second inversion, and $\frac{4}{2}$ or ^{2} for third inversion.

Try it #2

A. On the chart below the score, circle the correct seventh-chord quality in the indicated measure; then circle the word and figures that identify which chord member is in the bass.

Bach, Prelude in C Major, mm. 1–6

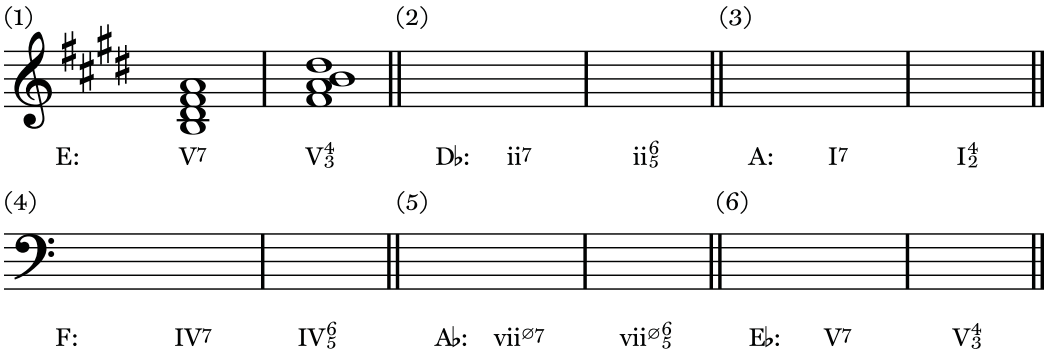
Show answers



	QUALITY				BASS AND FIGURES		
m. 2	MM7	mm7	Mm7	ø7	third $\binom{6}{5}$	fifth $\binom{4}{3}$	seventh $\binom{4}{2}$
m. 3	MM7	mm7	Mm7	ø7	third $\binom{6}{5}$	fifth $\binom{4}{3}$	seventh $\binom{4}{2}$
m. 6	MM7	mm7	Mm7	ø7	third $\binom{6}{5}$	fifth $\binom{4}{3}$	seventh $\binom{4}{2}$

B. For each key and chord below, write the key signature and then the seventh chord in root position and inversion, as specified by the figures.

Show answers

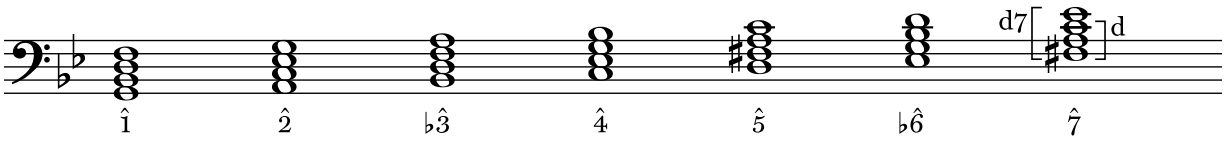


Diatonic Seventh Chords in Minor Keys

Now look at Example 8.5, seventh chords built from the G minor scale. Since scale degree ♭$\hat{7}$ is typically raised in minor to

make a leading tone, the chords on $\hat{5}$ and $\hat{7}$ are written here with an F♯. The seventh chord built on this leading tone introduces another type, a diminished triad plus a diminished seventh: called a **fully diminished seventh** chord, or **diminished seventh** for short, and labeled vii$^{\circ 7}$. In minor keys, then, you will find both half-diminished and fully diminished sevenths: ii$^{\varnothing 7}$ and vii$^{\circ 7}$. Together, Examples 8.2 and 8.5 present all the diatonic seventh chords you are likely to encounter.

EXAMPLE 8.5: Seventh chords built above the G minor scale



Triad quality:	m	d	M	m	M	M	d
7th quality:	m	m	M	m	m	M	d
Full name:	minor-minor 7th	diminished-minor 7th	major-major 7th	minor-minor 7th	major-minor 7th	major-major 7th	fully diminished 7th
Common name:	minor 7th	half-diminished 7th	major 7th	minor 7th	dominant 7th	major 7th	diminished 7th
Abbreviation:	mm7	$^{\varnothing 7}$	MM7	mm7	Mm7	MM7	$^{\circ 7}$
Roman numeral:	i^7	ii$^{\varnothing 7}$	III^7	iv^7	V^7	VI^7	vii$^{\circ 7}$

SUMMARY

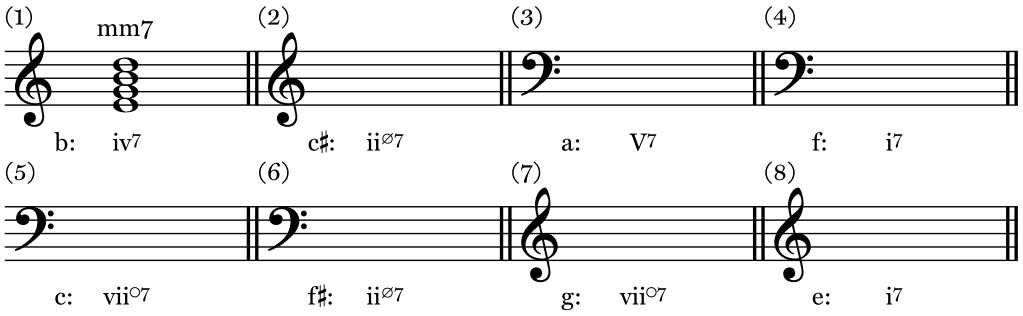
In minor keys (with the leading tone in chords on $\hat{5}$ and $\hat{7}$):

- Seventh chords on scale degrees $\hat{1}$ and $\hat{4}$ are minor sevenths (mm7).
- Seventh chords on $\flat\hat{3}$ and $\flat\hat{6}$ are major sevenths (MM7).
- The seventh chord on $\hat{5}$ is a dominant seventh (Mm7).
- The seventh chord on $\hat{2}$ is half diminished ($^{\varnothing 7}$).
- The seventh chord on $\hat{7}$ is fully diminished ($^{\circ 7}$).

Try it #3

Spell each of the following seventh chords in the given minor key, including the leading tone in chords on $\hat{5}$ and $\hat{7}$. First write the key signature, then write the chord and identify its type above the staff.

Show answers



Spelling Seventh Chords

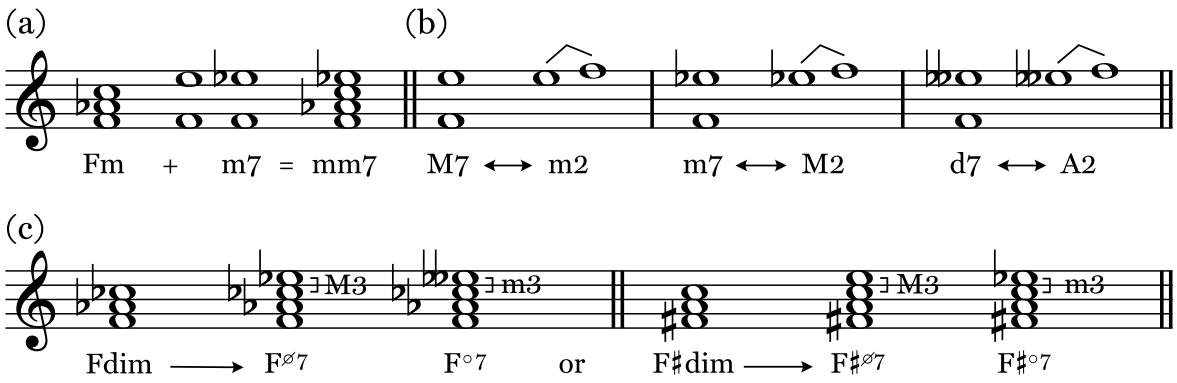
KEY CONCEPT To spell seventh chords above a given

root, first spell the correct-quality triad and then add the proper seventh.

For example, to write a minor seventh chord (mm7) above F:

1. Spell the minor triad: F-A♭-C (Example 8.6a).
2. Add the seventh, a third above the triad's fifth (E).
3. Check the interval quality between the root and seventh. Since F to E is a major seventh, add a flat to the E to make a minor seventh.

EXAMPLE 8.6: Spelling a minor seventh chord (mm7)



You may find it easier to check the quality of the seventh by inverting it (part b). Imagine the root of the seventh up an octave, making a second. If the second is minor (half step), the seventh is major; if the second is major (whole step), the seventh is minor; if the second is augmented, the seventh is diminished.

To make a diminished seventh chord (part c), write a diminished triad first, then add a third on top: for a half-diminished seventh, the third is major; for a fully diminished seventh, the third is minor. In fact, all thirds in the fully diminished seventh are minor.

SUMMARY

To spell seventh chords outside of a key context:

(1) Write three thirds on the staff (line-line-line-line or space-space-space-space).

(2) Check the quality of the triad, and add accidentals as needed:

- MM7 and Mm7 have major triads,
- mm7 has a minor triad,
- $^{\circ 7}$ and $^{\varnothing 7}$ have diminished triads.

(3) Check the quality of the seventh, and add accidentals as needed:

- MM7 has a major seventh,
- Mm7, mm7, and $^{\varnothing 7}$ have a minor seventh,
- $^{\circ 7}$ has a diminished seventh.

Another Way

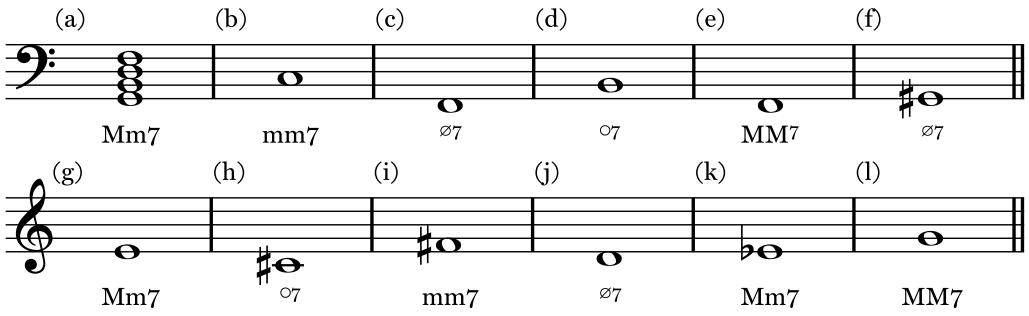
You could also think of seventh chords as a triad with an additional third on top:

- MM7 = major triad + M3
- Mm7 = major triad + m3
- mm7 = minor triad + m3
- $^{\varnothing}7$ = diminished triad + M3
- $^{\circ}7$ = diminished triad + m3

Try it #4

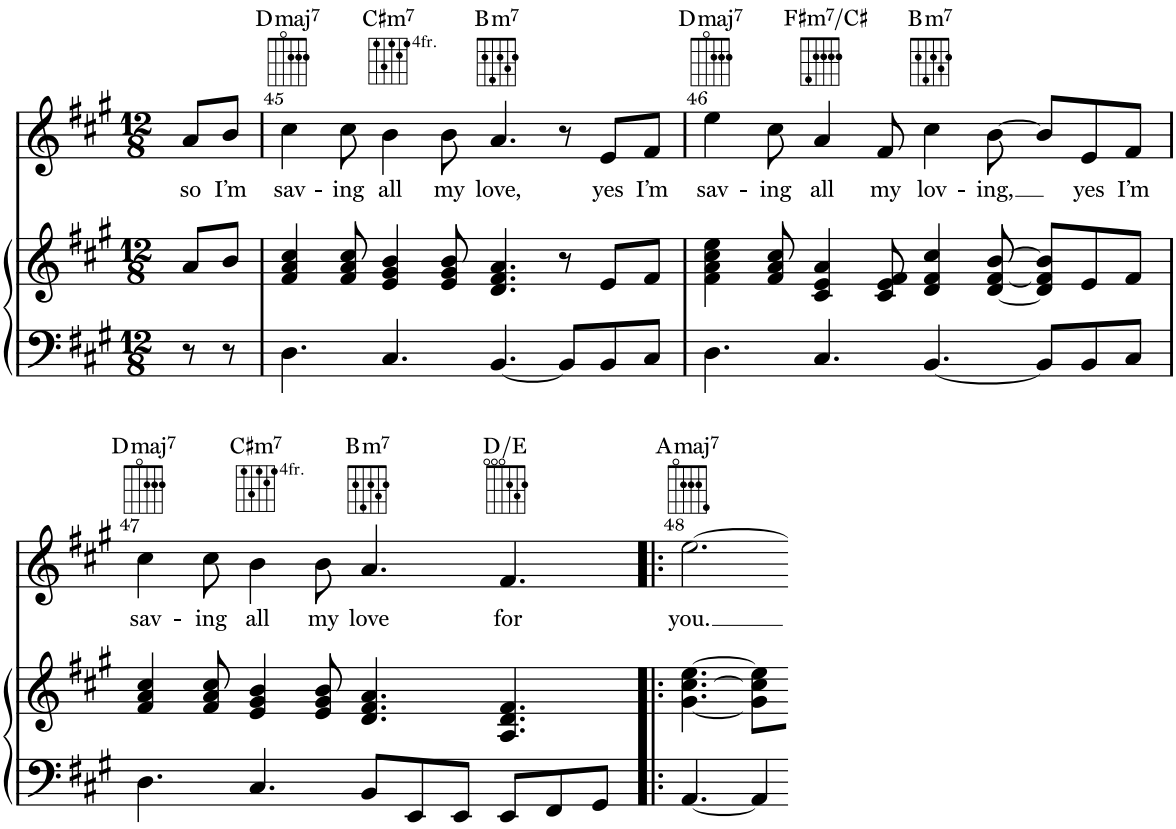
Spell the following seventh chords from the roots provided.

Show answers



Seventh Chords in Popular Styles

If you play in studio, rock, or jazz bands, you may be familiar with another way of labeling seventh chords. This system is found in lead sheets and may be combined with guitar fretboard diagrams—as in Example 8.7, a melody harmonized almost entirely with seventh chords.

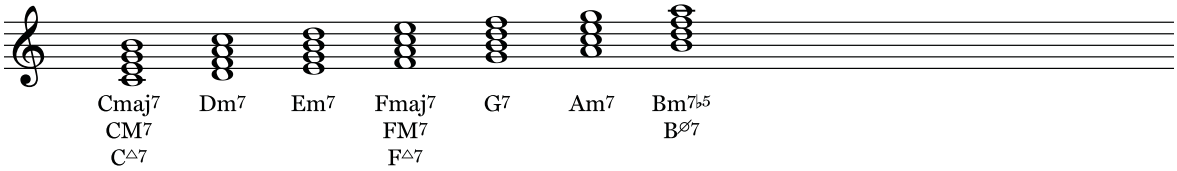
EXAMPLE 8.7: Goffin and Masser, "Saving All My Love for You," mm. 44–48

The Dmaj^{7} chord in measure 45 is a D major seventh (D-F♯-A-C♯); it could also be labeled, D$^{\triangle 7}$, DM^{7}, or D^{+7} (the system is not completely standardized, and these symbols are used

interchangeably). The next two chords are minor sevenths built on C♯ (C♯-E-G♯-B) and B (B-D-F♯-A). This three-chord pattern appears three times in the passage (for variety, the piano arrangement slightly changes the C♯m7 in m. 46), before closing with D/E (a D major triad with an E in the bass) and an arrival on Amaj7 (A-C♯-E-G♯).

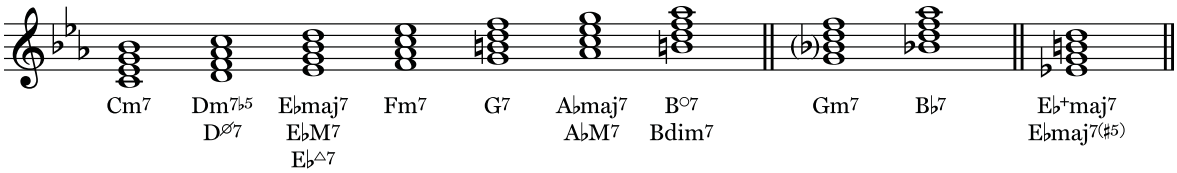
Example 8.8 shows various seventh chords in C major and C minor, with some of their possible labels. Half-diminished seventh chords are often notated (as in part a) as minor sevenths with a ♭5.

EXAMPLE 8.8: Seventh chords in C major and C minor, with lead-sheet labels

(a) C major



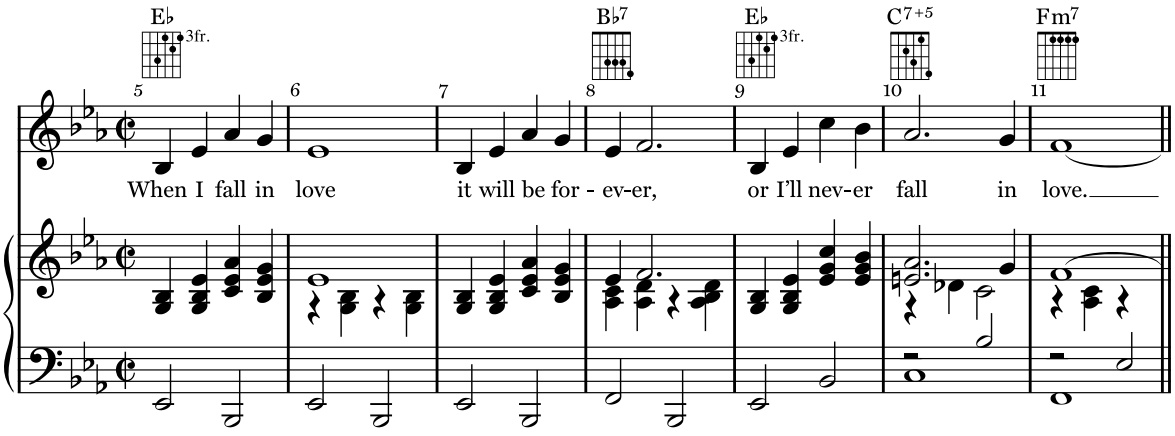
(b) C minor



Less Common Seventh Chords

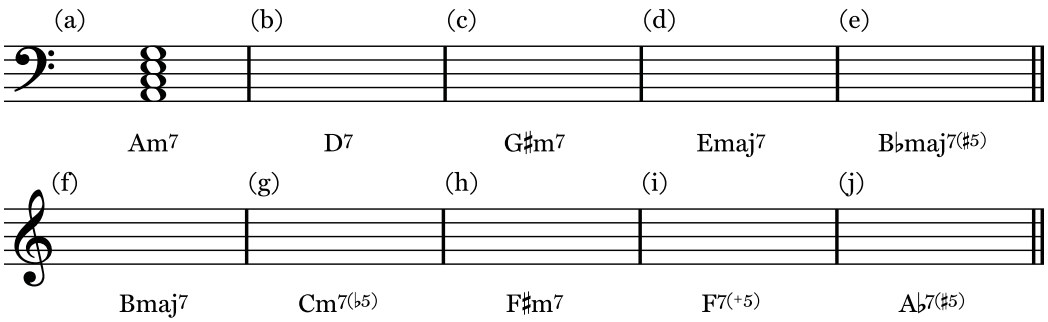
You may have noticed that Examples 8.2 and 8.5 don't exhaust *all* the possible combinations of triads and sevenths. For example, you could write an augmented triad with a major or

minor seventh, or a minor triad with a major seventh. Although these chords are not a regular feature of common-practice tonal music, they add harmonic richness in jazz and popular styles as substitutes for diatonic seventh chords. As an illustration, listen to Example 8.9, from "When I Fall in Love." In measure 8, the $B_{\flat}^{7}$ indicates a dominant seventh (which sounds on beat 2, $B_{\flat}$-D-F-$A_{\flat}$), while the C^{7+5} in measure 10 is an augmented triad with minor seventh, C-$E_{\natural}$-$G_{\sharp}$-$B_{\flat}$ (the $G_{\sharp}$ is spelled $A_{\flat}$). The excerpt closes with an Fm^{7} (F-$A_{\flat}$-C-$E_{\flat}$).

EXAMPLE 8.9: Heyman and Young, "When I Fall in Love," mm. 5–11

Try it #5

On the staves below, write the seventh chords requested. Write in all the accidentals (rather than a key signature) for practice spelling these chords.

Show answers


(a)
(b)
(c)
(d)
(e)
Am7
D7
G♯m7
Emaj7
B♭maj7(♯5)
(f)
(g)
(h)
(i)
(j)
Bmaj7
Cm7(♭5)
F♯m7
F7(+5)
A♭7(♯5)

Triads and Seventh Chords in Musical Textures

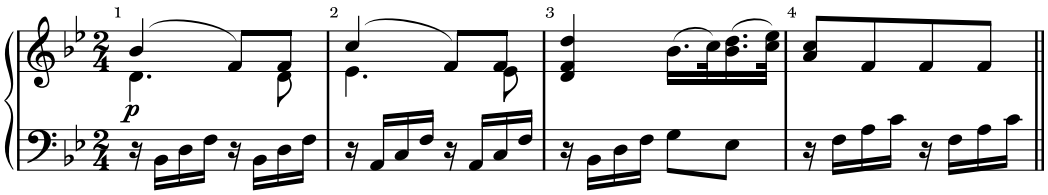
Arpeggiated Triads and Seventh Chords

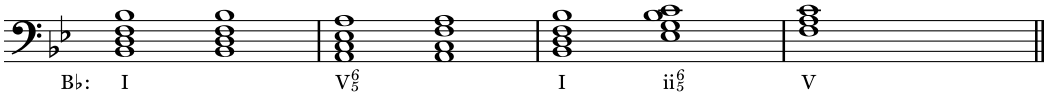
In "When I Fall in Love," all members of each chord sound at the same time. But sometimes a chord may be **arpeggiated**—played one pitch at a time—as in the Bach Prelude (Example 8.1) and the bass-clef part of Mozart's "Voi, che sapete," shown in Example 8.10a. (Mozart probably chose to arpeggiate the chords here because a character onstage is pretending to accompany the singer on a guitar, which the arpeggiated chords can mimic.) To analyze the left-hand chords in this B♭ major passage:

- write the pitches for the whole chord in Mozart's inversion (part b);
- rearrange the notes in root position to identify the chord root and Roman numeral (part c);
- add the correct inversion (from part b) to your Roman numerals.

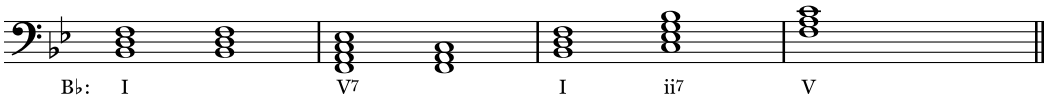
In the first measure, a B♭ major triad is played one chord member at a time, while in the following measure an F major chord (V^6) is arpeggiated A-C-F-A. Mozart likely used a first-inversion chord here (with the A in the bass instead of the root F) to make a smooth connection between the B♭s of measures 1 and 3. The remaining chords include a ii^{6}_{5} (E♭-G-B♭-C; disregard the shaded D5 in the right-hand part) and V (F-A-C).

EXAMPLE 8.10: Mozart, "Voi, che sapete"

(a) Mm. 1-4

(b) Mozart's inversions

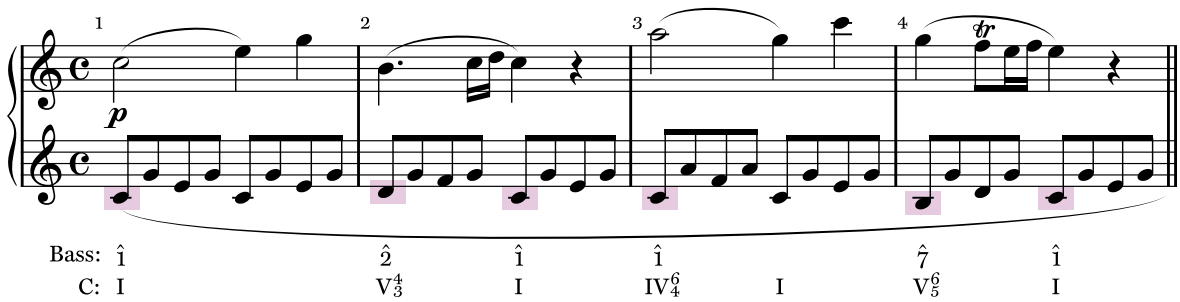


(c) Root position



For another familiar accompaniment pattern from the Classical period, listen to the passage in Example 8.11, from a piano sonata by Mozart. The left-hand accompanimental pattern arpeggiates the harmony with a "low-up-down-up" contour that is typical of an **Alberti bass**. In this kind of writing, the low pitches that begin each arpeggiated pattern are considered the bass notes of the chord (not necessarily the root) and form a bass line: here, $\hat{1}$–$\hat{2}$–$\hat{1}$–$\hat{1}$–$\hat{7}$–$\hat{1}$ (shaded in the example), with a dominant seventh chord harmonizing $\hat{2}$ and $\hat{7}$.

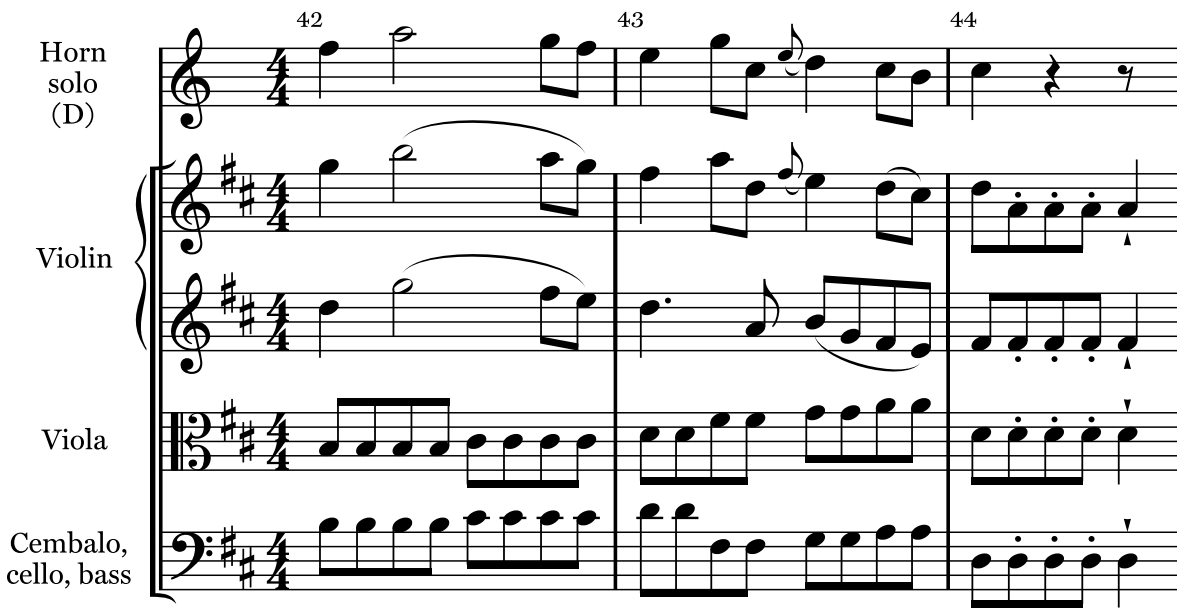
EXAMPLE 8.11: Mozart, Piano Sonata in C Major, mvt. 1, mm. 1–4



The Mozart examples represent only two possible arpeggiation patterns; the Bach Prelude in Example 8.1 is another. When you encounter any arpeggiated accompaniment, stack the chords in thirds to identify the root and quality.

Triads and Seventh Chords in Transposing Scores

Look at Example 8.12, from a horn concerto by Haydn, to identify triads and seventh chords in a fuller musical texture. At first glance, it seems that the first violin and horn soloist are playing in seconds (G against F, followed by B against A). But the label to the left of the horn's line includes a "(D)," which means that this instrument is a transposing one: a horn in D.

EXAMPLE 8.12: Haydn, Horn Concerto in D Major, mvt. 1, mm. 42–44

KEY CONCEPT For many instruments, called **C instruments** (or **concert-pitch instruments**), the pitch you see notated is the pitch you hear; these include the piano, flute, oboe, bassoon, trombone, tuba, harp, and most of the string family. (Some C instruments sound in a different octave from their notation: the piccolo and xylophone sound an octave higher than notated; guitar, string bass, and contrabassoon sound an octave lower than notated.) But for some wind and brass instruments, called **transposing instruments**, the pitch you see notated is not the pitch you hear.

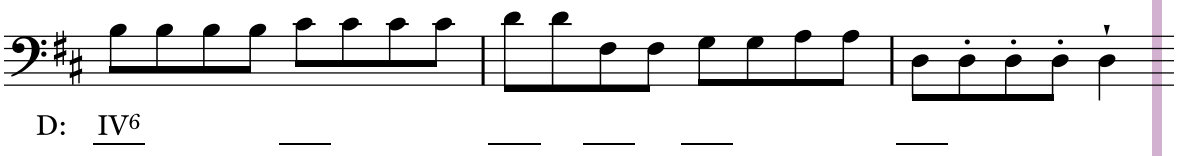
The horn is one such transposing instrument, and the Haydn concerto excerpt—showing the notes the instrument plays rather than the sounding pitches—is an example of a **transposed score**. You can identify a transposed score by key signatures that are not the same in all instruments, as here. Sometimes, on the other hand, the score for a band or orchestral work will show the sounding pitches for transposing instruments; this is called a **C score**, and can be recognized by all parts having the same key signature.

In the fairly populous category of B♭ instruments–B♭ trumpet, B♭ clarinet, bass clarinet, and tenor saxophone, among others–when the performer plays a notated pitch, the sound is a whole step lower than the notated pitch (or, in the case of bass clarinet and tenor saxophone, a whole step plus an octave lower). When you write for B♭ instruments, you therefore need to write the pitches a whole step *higher* (and use a key signature a whole step higher). In the Haydn example, the horn in D transposes by whole step as well, but in this case the sounding pitch is a whole step higher than notated, so the part is notated a whole step *lower*: the horn actually doubles the first violin part.

Try it #6

Write Roman numerals for the triads and seventh chords of Example 8.12 in the blanks below (the blanks indicate where the chords or inversions change). Remember that the transposing horn part is playing the same notes as the first violin.

Show answers



KEY CONCEPT What you see is the notated pitch; what you hear is the concert pitch. To remember how to read notes for transposing instruments (on a transposing score), imagine that a C is notated. When the performer reads a C, the

resulting **sounding pitch** (or **concert pitch**) is usually associated with the name of the instrument: a notated C played by a B♭ clarinet sounds B♭; a notated C played by a D trumpet or horn sounds D.

Assigning specific pitches, chords, or melodies to particular instruments is called **arranging**; doing the same for larger ensembles is called **orchestration**. Appendix 5 summarizes the ranges and transpositions of most orchestral and band instruments, but the most common transpositions are listed below.

KEY CONCEPT

B♭ instruments: the notated key is a whole step above the concert-pitch key.

- To write for a B♭ instrument, transpose the concert part up a whole step.
- To read from a transposed part, remember that concert pitches sound a whole step lower than the notation.
- The B♭ tenor saxophone and B♭ euphonium are written in the treble clef, but sound in the bass clef; transpose up a whole step plus an octave, or a major ninth.

E♭ instruments: the notated key is a minor third below the concert-pitch key.

- To write for an E♭ clarinet, transpose the concert part down a minor third.
- To read from a transposed part, remember that concert pitches sound up a minor third from the notation.
- To write for an E♭ alto saxophone or E♭ horn, transpose the concert part up a major sixth; concert pitches sound a major

sixth lower than the notation.

- The E♭ baritone (bari) saxophone is written in the treble clef, but sounds in the bass clef; transpose up a major sixth plus an octave.

F instruments: the notated key is a perfect fifth above the concert-pitch key.

- To write for F horn or English horn, transpose the concert part up a perfect fifth; concert pitches sound a perfect fifth lower than the notation.

A instruments: the notated key is a minor third above the concert-pitch key.

- To write for an A clarinet, transpose the concert part up a minor third; concert pitches sound a minor third lower than the notation.

SUMMARY

To label triads or seventh chords correctly from a score with transposing instruments:

- Be sure to include the sounding (concert) pitch in your chord calculation instead of the notated pitch.
- Be careful with instruments that transpose down, especially those that could be playing the lowest bass notes, to get the correct inversion.
- To make an arrangement for transposing instruments, start with the notation in concert pitch, then transpose as necessary for your performers.

Try it #7

Try it #7

Given the concert key. write the key of the transposed part for each instrument listed below.

Show answers

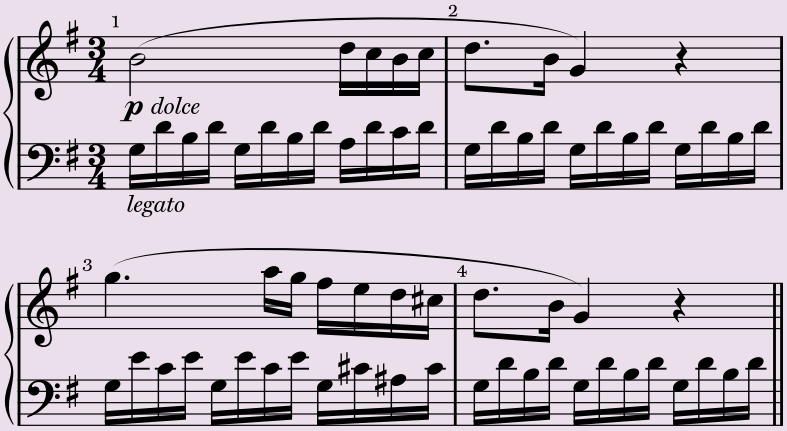
CONCERT KEY	INSTRUMENT TYPE	KEY OF TRANPOSED PART
E♭	B♭ instrument F	F
C	F instrument	
B♭	E♭ instrument	
G	A instrument	
F	F instrument	
C	B♭ instrument	
E♭	F instrument	
C	E♭ instrument	

Seventh Chords and Musical Style

The treatment of seventh chords is an important aspect of musical style. For example, only sevenths built on scale degrees $\hat{2}$, $\hat{5}$, and $\hat{7}$ appear frequently in Classical-period music; yet we find seventh chords on all scale degrees in Romantic music, jazz, and popular styles. In some styles, the dissonant interval of a seventh must be approached and resolved down by step; in others, the seventh may be left unresolved altogether for dramatic effect, or the entire chord may simply slide up or down to another seventh chord. In common-practice tonal music, for example, composers would not normally end a piece with a I^7 or i^7, yet tonic chords at the end of a jazz standard often do feature an unresolved seventh. As you identify seventh chords in music you are playing, consider what type of seventh each chord is, and how the chord is connected to those around it. Later chapters will explore other facets of these

indispensable chords.

Did You Know?

The Alberti bass is named for Domenico Alberti, an Italian singer, keyboard player, and composer who was born in Venice around 1710 and died in Rome at only thirty. Alberti was one of the first to use the left-hand arpeggiation pattern that has become associated with his name, often found accompanying a right-hand melody in keyboard music of the Classical era. As few of Alberti's own compositions are performed today, the pattern has largely become associated with keyboard works by Mozart—such as the second movement of the Piano Sonata in C Major, K. 545, shown below.

TERMS YOU SHOULD KNOW

Alberti bass
arpeggiated chord
arranging, arrangement
B♭ instruments
C instruments, concert instruments
C score, concert-pitch score
concert key, concert pitch
E♭ instruments
F instruments
seventh chords
• first inversion
• second inversion
• third inversion
seventh-chord qualities
• dominant seventh (Mm7)
• fully diminished seventh ($^{\circ 7}$)
• half-diminished seventh ($^{\varnothing 7}$)
• major seventh (MM7)
• minor seventh (mm7)
orchestration
transposing instruments
transposed score

QUESTIONS FOR REVIEW

1. In major keys, which scale-degree seventh chords are MM7? Which are mm7? Which are Mm7? Which are $^{\varnothing 7}$ or $^{\circ 7}$?
2. In minor keys (using the natural minor scale), which scale-

degree seventh chords are MM7? mm7? Mm7? or ø7 or °7?

3. When the leading tone is added in minor keys, which seventh chords are usually altered? How does their quality change?
4. In the key of C minor, label each of the following sonorities with chord quality, Roman numeral, and lead-sheet symbol:
   - F-A♭-C-E♭
   - B-D-F-A♭
   - E♭-G-B♭-D
5. Describe the steps you take to spell a seventh chord. How can the principle of interval inversion help?
6. What are the figures for seventh chords in each inversion?
7. How is an Alberti bass constructed?
8. What is the difference between a concert-pitch score (C score) and a transposed score? How can you determine if an orchestral or band score is a C score or transposed score?
9. How do you find the concert pitch in a transposed score for B♭ clarinet? E♭ clarinet? F horn? piccolo?

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9 Connecting Intervals in Note-to-Note Counterpoint

Outline

Species counterpoint

Connecting melodic intervals

Connecting harmonic intervals
- Four types of contrapuntal motion
- Consonant harmonic intervals

Writing note-to-note counterpoint in strict style
- Beginning and ending a first-species counterpoint
- Completing the middle

Overview

In this chapter, we learn how to connect melodic and harmonic intervals to make two-part, note-to-note counterpoint in strict species.

Repertoire

Cantus firmi by

Johann Joseph Fux (1660–1741)

Knud Jeppesen (1892–1974)
Heinrich Schenker (1868–1935)

Species Counterpoint

Chapters 6–8 laid the basic building blocks for tonal music: melodic and harmonic intervals, triads, and seventh chords. Here, we make the two dimensions of melody and harmony work together to form counterpoint.

KEY CONCEPT **Counterpoint** is created when two or more different melodic lines are combined so that the lines form harmonies, or when individual voices in a succession of harmonies make good melodic lines. The process of connecting harmonic and melodic intervals is called **voice-leading**.

Composers of the eighteenth and nineteenth centuries—such as Bach, Handel, Mozart, Beethoven, and Brahms—considered counterpoint a foundation of their musical art, but the tradition of studying counterpoint stretches back hundreds of years, and continues as a valued component of musicians' training today. In the Baroque era (1600–1750), beginners would learn counterpoint in steps—by the **species** method—beginning with the simplest style in two parts and adding complexity until they were writing in four or more parts. We will do the same: first learn how to connect intervals in two parts (here and in Chapter 10), and consider the connections between species counterpoint and music literature more fully in Chapter 11.

The study of counterpoint will prove invaluable as you continue your music studies. To compose music, you might begin with a simple framework and add elaboration; to analyze music, you can use your knowledge of counterpoint to discover this underlying framework and see how it is embellished. Though a detailed consideration of note-to-note connections may seem abstract or removed from the context of music literature, the principles involved are actually the basis of all

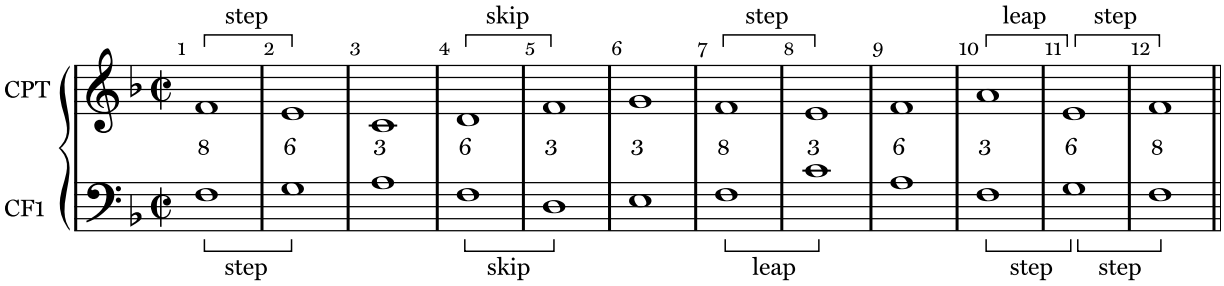
tonal composition.

Aspiring composers and musicians traditionally begin two-voice counterpoint with a "given line"—called a **cantus firmus** (CF, or cantus, for short), a line that is not to be changed. The student then writes another voice above or below it. The simplest type of counterpoint, called **first species** ("species" simply means "type of"), matches each note of the cantus with a note of the same duration. First-species counterpoint is also called "note-to-note," or 1:1, because both parts move at the same time to the next harmonic interval. While in traditional first-species exercises the cantus is notated in whole notes and the student provides a counterpoint in whole notes, any duration may be used as long as it is the same in both voices.

Connecting Melodic Intervals

Sing or play Example 9.1, a first-species counterpoint, to hear how each harmonic interval connects to the next. In this example, the cantus firmus is the lower part (labeled CF1), the counterpoint the upper part (CPT). This cantus is by Johann Joseph Fux, whose counterpoint treatise was widely studied in the eighteenth century. Each of the cantus lines in this chapter is taken from traditional counterpoint teaching.

EXAMPLE 9.1: Cantus firmus 1 (Fux, adapted) in a first-species setting



KEY CONCEPT Melodic intervals are connected by step, skip, or leap. Consider a half or whole step as a **step**, a third as a **skip** (it "skips" between adjacent triad members), and a fourth, fifth, or larger as a **leap** (it "leaps" over members of a triad). A melodic line that moves primarily by step is **conjunct**; one that moves primarily by skip or leap is **disjunct**.

To write a good contrapuntal line in strict style, use primarily conjunct motion, with a few skips or a leap for variety, as in Example 9.1. The melodic skips or leaps should be consonant: m3, M3, P4, P5, m6, M6, and P8. Dissonant melodic intervals

larger than a M2, such as a m7, M7, d5, A4, or A2 (in minor), are not permitted in this style. Aim for a line with a good shape, with one or two high or low points, and avoid repeating one or two notes excessively.

Larger intervals create a dramatic effect and for this reason must be treated carefully. For instance, in Example 9.1 the leap from F3 to C4 in CF1 (mm. 7–8) emphasizes the climax of this melodic line.

KEY CONCEPT You may include one leap larger than a fourth in a first-species counterpoint melody. Where possible, approach the leap by step in the opposite direction (for example, approach an ascending leap with descending stepwise motion); after the leap, change direction again and fill in the space with smaller intervals.

The leap in Example 9.1's CF1, for instance, is followed by a change of direction that fills in the leap with thirds (mm. 9–10). In CF2 of Example 9.2 (below), the leap in measures 1–2 is filled in by step.

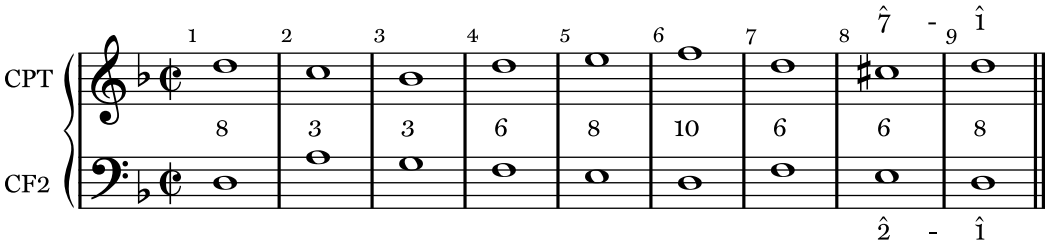
The upper line in Example 9.1 also includes a leap, the P4 in measures 10–11. This downward leap is approached by ascending motion and followed by an ascending step, balancing the line and constraining its range. To create a strong melodic line, avoid

- leaps preceded or followed by a skip in the same direction, and
- more than two skips or leaps in a row.

In strict counterpoint, both the cantus and the counterpoint should begin and end on the tonic, and both voices must close with a stepwise approach to the tonic: normally $\hat{7}$–$\hat{1}$ in the counterpoint against $\hat{2}$–$\hat{1}$ in the cantus. In general, only diatonic notes of the key or mode (no accidentals) may appear in each

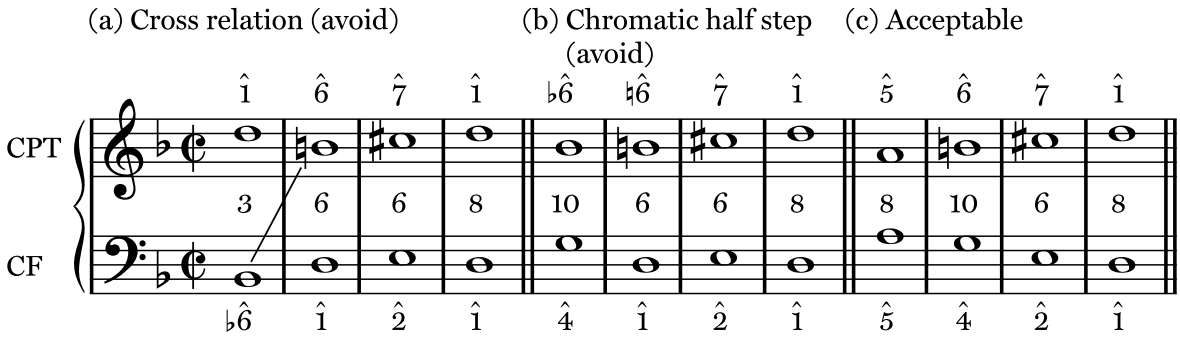
part, with one exception at the close: in minor-mode settings like Example 9.2, raise ♭$\hat{7}$ to $\hat{7}$ in the counterpoint to create a leading tone and a stronger ending. If ♭$\hat{6}$ is also present in a stepwise approach to the tonic (here, it would be B♭4), raise it as well (to $\hat{6}$, as in melodic minor), to avoid creating a melodic A2 with the leading tone. Be sure to consider the harmonic intervals that a ♭$\hat{6}$ or $\hat{6}$ would form with the cantus: neither can appear in measure 7, as each would make a dissonance with F3 in the cantus (a P4 for B♭ and an A4 for B♮), harmonic intervals not permitted in strict style.

EXAMPLE 9.2: Cantus firmus 2 (Jeppesen) in a first-species setting



If ♭$\hat{6}$ and ♭$\hat{7}$ from natural minor appear in the cantus near the close, there is the possibility of a clash between these scale degrees and $\hat{6}$ and $\hat{7}$ in the counterpoint. This clash, called a **cross relation** (Example 9.3a), should be avoided. In addition, avoid following ♭$\hat{6}$ by $\hat{6}$ in the same part (part b); a chromatic half step is unacceptable in this style. A good approach to $\hat{6}$ and $\hat{7}$ is shown in part (c).

EXAMPLE 9.3: Treatment of the sixth and seventh scale degrees in minor keys



SUMMARY

Guidelines for writing a good melodic line (in any species):

- Melodic intervals larger than steps must be consonant; don't use the intervals m7, M7, d5, A4, or A2.
- Create a pleasing shape, with one or two high or low points and at most one immediately repeated note; avoid too many reappearances of a single note.
- Write primarily steps and skips; normally, each line should include no more than one leap.
- Precede and follow a leap with motion in the opposite direction, stepwise where possible.
- Begin and end on $\hat{1}$, and approach $\hat{1}$ at the cadence by step.
- At the cadence in minor, raise $\flat\hat{7}$ to $\hat{7}$, but avoid a melodic A2, a cross relation, or a chromatic half step.

Connecting Harmonic Intervals

Each time you write a counterpoint exercise, label the harmonic interval sizes between the staves, as in Examples 9.1–9.3. For intervals larger than a tenth, use the simple rather than the compound number (4 rather than 11). In first species, the distance between the two parts is normally no larger than a tenth (which may be indicated as either 10 or 3); the voices may occasionally move farther apart, but not for long. (Some examples in this chapter will show slightly wider spacing between the parts to allow the cantus and counterpoint to fit on the bass and treble staves without ledger lines.)

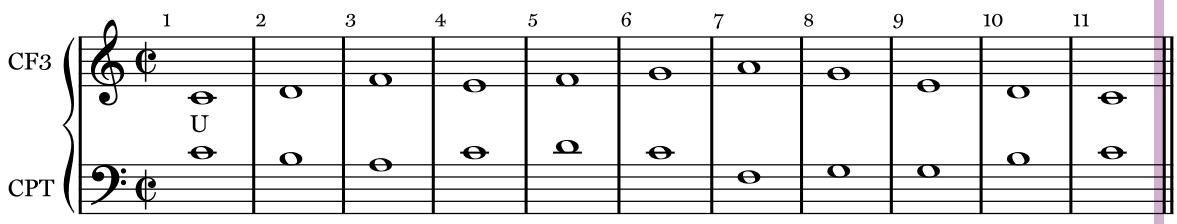
KEY CONCEPT To analyze harmonic intervals between the upper and lower parts, write interval sizes only, without specifying perfect, major, or minor; do, however, specify augmented and diminished intervals (e.g., A4 or d5). Reduce any harmonic interval greater than a tenth to within the octave (write 4, not 11).

Try it #1

On the example below, (1) label the harmonic intervals between the staves; (2) label any skips or leaps between two melody pitches (in either part) with brackets; and (3) beneath the score, circle the appropriate word that describes the predominant type of motion for each part.

Cantus firmus 3 (Schenker) in a first-species setting

Show answers



Type of melodic motion most prominent in each line:

Upper part (cantus firmus)	conjunct	disjunct
Lower part (counterpoint)	conjunct	disjunct

Four Types of Contrapuntal Motion

In writing or analyzing counterpoint, one important aspect to consider is how the voices of each harmonic interval make a linear connection with the next harmonic interval.

KEY CONCEPT There are four types of contrapuntal motion between pairs of voices.

Contrary motion (C): The two parts move in opposite directions. This is the preferred type of motion because it gives voices the most independence and balance.

Parallel motion (P): Both parts move in the same direction by the same interval; this is allowed between imperfect consonances, but not between perfect consonances.

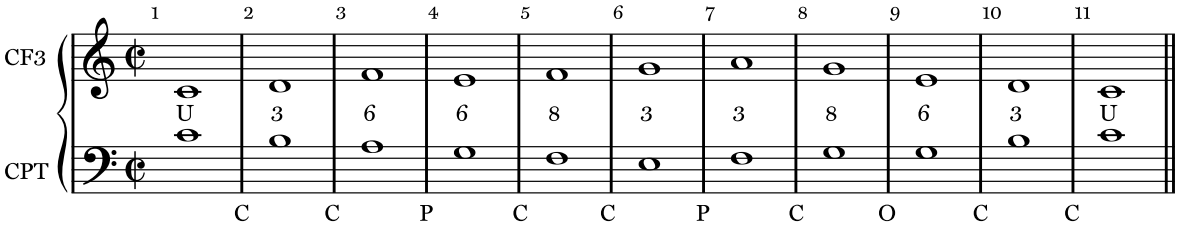
Similar motion (S): Both parts move in the same direction, but not by the same interval. Similar motion may be used freely except when approaching a perfect interval, where it is acceptable only if the upper part moves by step.

Oblique motion (O): One part repeats or sustains a single pitch, the other moves by leap, skip, or step. Because oblique motion requires one part to be static, this type, though acceptable, is not as desirable.

The counterpoint from Examples 9.1 and 9.2 prominently features contrary motion; the only exceptions are parallel motion between thirds (9.1, mm. 5–6; 9.2, mm. 2–3) and sixths

(9.2, mm. 7–8). Example 9.4 also features contrary motion (C) but includes parallel motion (P) twice and oblique motion (O) just before the close.

EXAMPLE 9.4: Cantus firmus 3 (Schenker) in a first-species setting

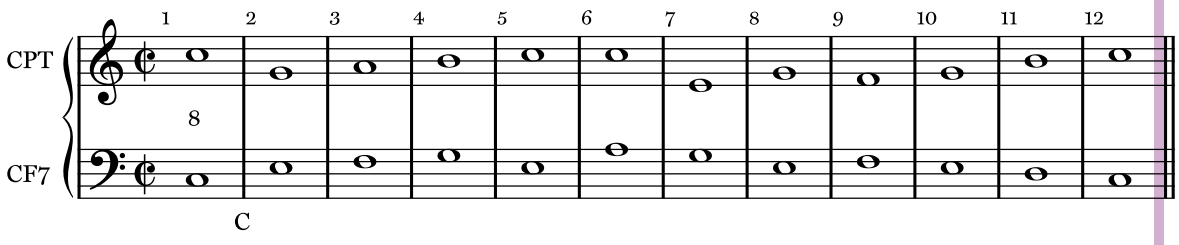


Try it #2

In the example below, write the harmonic interval numbers between the staves. Then identify the motion between these intervals as C (contrary), S (similar), O (oblique), or P (parallel) by writing the appropriate letter below the staff, between adjacent notes.

Cantus firmus 7 (Fux) in a first-species setting

Show answers



Consonant Harmonic Intervals

As noted in Chapter 6, the consonant intervals include the PU, P5, and P8 (perfect consonances) and the M3, m3, M6, and m6 (imperfect consonances). The perfect fourth is a special case.

KEY CONCEPT The P4 is treated as a dissonance when it appears harmonically between the lowest voice and any upper voice. But it is considered a consonant melodic interval, and a consonant harmonic interval between upper voices when there are three or more parts. When writing counterpoint in only two parts, treat the harmonic P4 as a dissonance.

Perfect Consonances: PU, P5, P8 Because of their stability and tendency to sound open, perfect intervals must be treated carefully in contrapuntal settings. Of the consonant intervals, the PU is the most consonant and most stable; it therefore appears only at the beginning or end of an exercise, as in Example 9.4, not in the middle. More frequent unisons cause two parts to sound like only one, and stop the sense of forward motion.

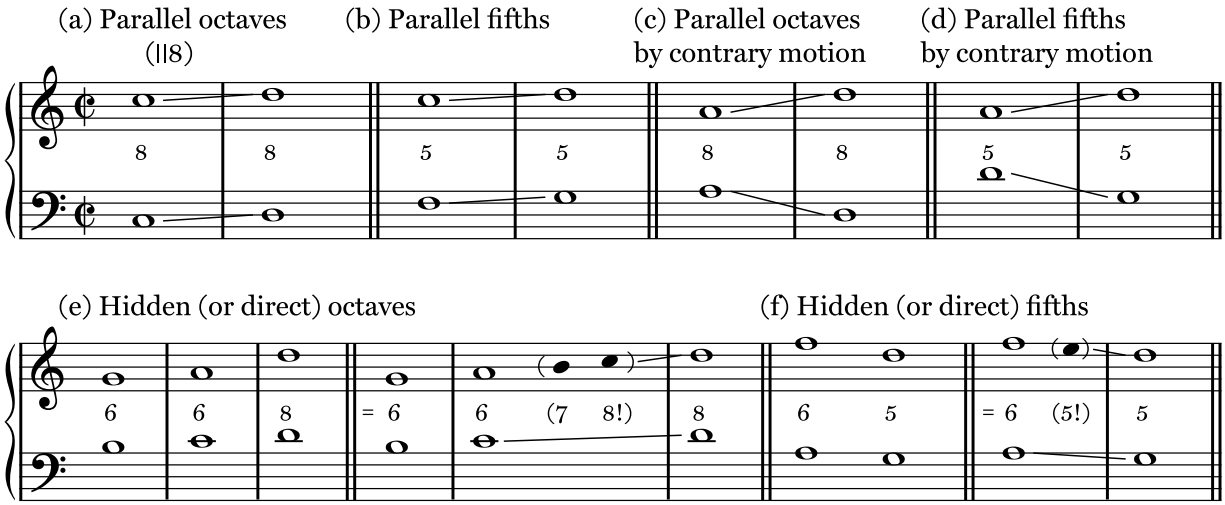
The P8 is likewise very stable, and may be found at the beginning or end, but it may also occasionally be employed in the middle, since it does not have as strong a tendency to delay the forward motion. However, the P8 also sounds hollow; avoid writing it too often in a single exercise because of its open sound and relative stability.

The P5 creates a sense of stability as well, but less so than the P8 or PU. It implies a triad, although the quality of triad is unclear since there is no third. The P5 also has a hollow sound, and tends to stand out unless approached properly in both parts.

KEY CONCEPT Moving from one perfect interval to

another of the same size is prohibited in first-species counterpoint (Example 9.5). If the motion is in the same direction, it results in **parallel octaves** (P8–P8; part a), **parallel fifths** (P5–P5; part b), or **parallel unisons** (PU–PU). Contrary motion between two perfect intervals of the *same size* is likewise not acceptable (known as parallel octaves or fifths by contrary motion, or contrary octaves or fifths; parts c–d).

EXAMPLE 9.5: Parallel, contrary, and hidden (or direct) octaves and fifths



A perfect harmonic interval is normally approached by contrary motion. Often the upper voice will lead into a perfect interval by step, while the lower part may step or skip. Leaps in one or both parts into a perfect interval are not recommended, as they make the interval stand out from the surrounding counterpoint. Also avoid approaches to perfect intervals by similar motion, because the motion *implies* parallel fifths or octaves, as illustrated in Example 9.5e–f (an approach called hidden fifths or octaves, sometimes direct fifths or octaves). Only when the *upper* voice moves by step is similar motion to a perfect interval acceptable.

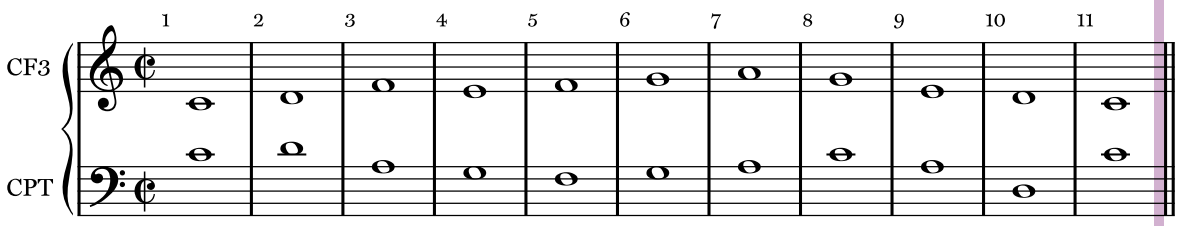
Try it #3

Try it #3

The counterpoint below includes some common errors. Write the harmonic interval numbers between the staves, then circle any parallel perfect intervals.

Cantus firmus 3 (Schenker)

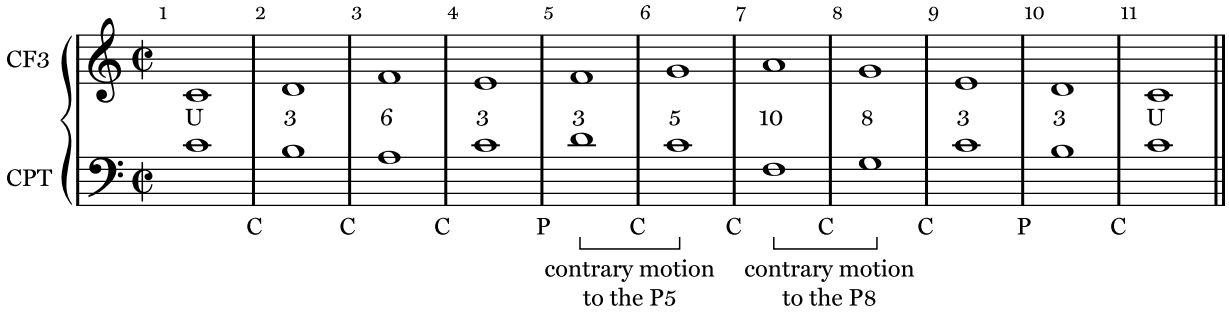
Show answers



Imperfect Consonances: M3, m3, M6, m6 Imperfect consonances sound warm and blending, less open than perfect consonances, and provide more sense of forward direction; they may connect to either imperfect or perfect consonances. In strict style, most of the harmonic intervals other than those at the opening and close will be thirds and sixths, with occasional perfect intervals providing contrast. Although imperfect consonances may connect to a same-size interval, making parallel thirds or sixths, such a succession should be limited to three in a row to avoid monotony and a loss of independent lines.

Example 9.6 moves mostly in contrary motion, where seven of the eleven intervals are imperfect consonances and four are perfect.

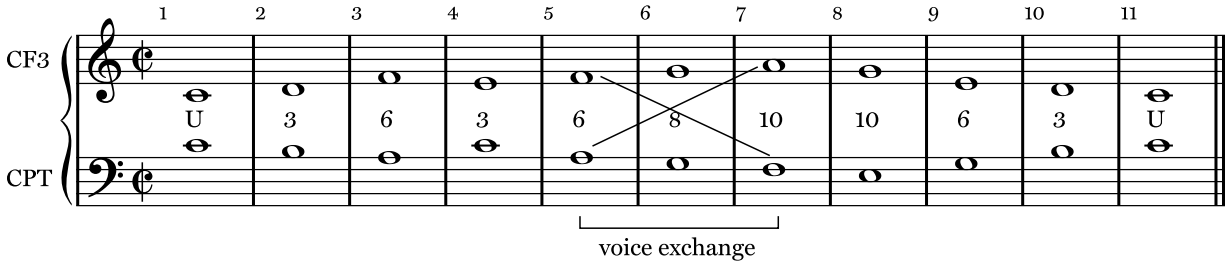
EXAMPLE 9.6: Cantus firmus 3 (Schenker)



Here the perfect consonances in measures 6 and 8 are approached (by step in both voices, with contrary motion) and left carefully to blend gracefully into the counterpoint. Still, although this setting is strong overall, the repetition of C4 in the counterpoint (five of the eleven notes) is a weakness.

Yet another setting of CF3 in Example 9.7 gives the same opening intervals, but sets pitches 5 to 7 of the cantus with stepwise contrary motion. This procedure has a special name, the **voice exchange**: the pitch classes F–G–A in the upper voice change positions with A–G–F in the lower voice. Such an intervallic pattern (6–8–10) and the melodic voice exchange, characteristic in this style, are highly desirable because of the way the perfect consonance (8) is treated: approached by step in each voice, with contrary motion.

EXAMPLE 9.7: Cantus firmus 3 (Schenker) in another first-species setting



Completing a counterpoint for a cantus firmus is a process of trade-offs: choices that make an excellent setting for one

portion may create challenges in others, and most good settings will include something that could be criticized. Part of the learning process in writing counterpoint is trying out different combinations to hear their effect, while striving for a technically perfect setting.

KEY CONCEPT First-species settings should follow these most essential guidelines:

- Write the proper opening and closing gestures.
- Watch for parallel fifths and octaves.
- Write only consonant harmonic intervals.
- Avoid dissonant melodic intervals larger than a step.

Other guidelines are ideals rather than absolutes.

There are two small imperfections, for instance, in Example 9.7: the counterpoint skips from A3 to C4 and back in measures 3–5, which could be considered repetitive; and while the descent to E3 after the voice exchange (m. 8) is a strong point, it necessitates two skips followed by a step to reach the cadence at the end. For alternative treatments of this same cantus, look back at Example 9.4 and *Try it #1*. A weakness of Example 9.4 is the contour: essentially down then up, with no other changes of direction. *Try it #1* includes a little segment, C4–D4–C4 (mm. 4–6), separated by a skip on one side and a leap on the other, which breaks up the line into three distinct sections (mm. 1–3, 4–6, 7–11); the strongest lines will exhibit a flowing contour from beginning to end without any discrete segments.

Writing Note-to-Note Counterpoint in Strict Style

Beginning and Ending a First-Species Counterpoint

As a first step in writing a complete counterpoint to a given cantus firmus, set a PU or P8 against the first note of the cantus. A P5 is possible only if the cantus is the lower part (scale degree $\hat{1}$ should always be in the bass). To decide which opening interval to use,

- examine the contour of the cantus, then choose a starting interval that will allow your counterpoint to stay within a tenth of the cantus, while leaving space for the lines to flow without colliding or crossing.
- If the cantus is the lower part and moves down (or if it's the upper part and moves up), a unison opening could work well, allowing the lines to start together, then diverge without moving too far apart (see Example 9.4).
- If the cantus is the upper part and moves down, or the lower part and moves up (toward the part you will be writing, as in Examples 9.1 and 9.2), use a P8.

Now decide on the intervals at the close. The only ones employed in strict style are 6–8 and 3–U (or 10–8). If the cantus descends to the final note (as most do), the counterpoint should ascend. As mentioned previously, if the cantus implies scale degrees $\hat{2}$–$\hat{1}$ in a minor mode, $\flat\hat{7}$ in the counterpoint line should be raised to make the leading tone. And if the leading tone is preceded by $\flat\hat{6}$, then both $\flat\hat{6}$ and $\flat\hat{7}$ must be raised, as in melodic minor—but take care that these alterations do not create cross relations or chromatic half steps.

Completing the Middle

After selecting the opening and closing intervals, sing through the cantus to consider the middle—this portion will need some planning to achieve an appealing result. Take a close look at the shape of the given line: Where are the steps and skips? Is there a leap? The contour of a successful counterpoint will complement the cantus and provide contrary motion where possible.

KEY CONCEPT Set intervals as follows:

CANTUS	COUNTERPOINT
Leap	Set with a step, in contrary motion.
Steps	May incorporate a skip or leap (as well as step).
Skip	Set with either a step (preferred) or a skip.

Simultaneous skips that exchange pitch classes (e.g., an ascending E–G in the cantus, a descending G–E in the counterpoint) normally sound good as long as there are steps around them. Also, consider the overall shape of your contrapuntal line. If you use oblique motion, limit it to one or two instances (in longer CFs), only one of which involves the tonic.

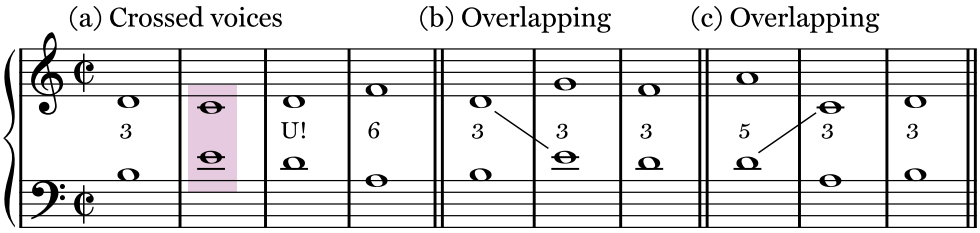
Try for a mix of perfect and imperfect harmonic consonances, with more imperfect than perfect. At least one P5 or P8 should appear somewhere in the middle. Because perfect intervals are best approached and left by contrary motion, one typical interval sequence is 6–8–10 (or 10–8–6), making a voice exchange (as in Example 9.7). Other possible approaches to P8 and P5 are shown in Example 9.6. All previous guidelines for writing perfect intervals still apply (see Example 9.5).

As you complete your counterpoint, be sure that the lines generally stay within a tenth of each other, without crossing. This particular problem, **crossed voices**, can be seen in

Example 9.8a, measure 2, where the lower voice on E4 is positioned above the upper voice's C4. In part (b), the violation of range known as **overlapping** occurs: in measure 2, the E4 in the lower voice is higher than measure 1's D4 in the upper voice. Similarly, in part (c), the lower voice in measure 1 is higher than the upper voice in measure 2.

Crossed or overlapping voices often appear in combination with other errors, such as the unison in part (a), or inappropriate leaps in parts (b) and (c). Also remember to avoid any melodic or harmonic dissonances (watch out for the harmonic P4!) or accidentals in the middle of the counterpoint (add an accidental only at the cadence in minor).

EXAMPLE 9.8: Crossed voices and overlapping



SUMMARY

Guidelines for writing first-species counterpoint:

- For the opening harmonic interval, write P8, PU, or P5 (the latter only with the cantus in the lower voice).
- For the closing harmonic intervals, write 6–8 or 3–U (10–8). In minor, raise $\flat\hat{7}$, and raise $\flat\hat{6}$ if it precedes $\hat{7}$ (to avoid an A2); but watch out for cross relations.
- Write mostly contrary motion between the parts.
- Avoid parallel octaves or fifths (by parallel *or*

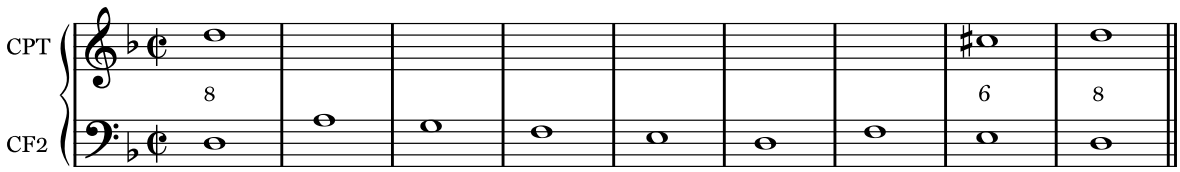
contrary motion).

- Approach perfect intervals by contrary motion, or in similar motion with a stepwise upper voice.
- Don't write more than three parallel imperfect consonances (3 or 6) in a row.
- Include a mix of perfect and imperfect consonances, with more imperfect than perfect.
- Avoid dissonant harmonic intervals (including P4); don't add accidentals except at the cadence in minor.
- Avoid dissonant melodic intervals (e.g., m7, M7, d5, A4, or A2 in minor).
- Write leaps sparingly; approach and leave them by step in contrary motion if possible; and set them with a step in the other part (preferably in contrary motion to the leap). Don't set a leap in one voice against a leap in the other.
- Give your melodic line an interesting contour; it should not be static, repeating notes or circling around one note. Keep the ranges of the lines distinct: don't overlap or cross voices.
- Aim for primarily stepwise motion, with no more than two skips or leaps in a row.

To help you choose among the many possibilities for the middle of your counterpoint, try making a table like the one in Example 9.9. First, fill in the bottom row with the cantus letter names. Then look at the column at the far left, and in the remaining boxes write the note names of the third, fifth, and sixth above each cantus note. If the cantus is the upper line, write the letter names in the top row, then (top to bottom) 8, 3, 5, and 6.

EXAMPLE 9.9: Cantus firmus 2 (Jeppesen) in a first-species setting

6	B♭	F	E	D	C	B♭	D	C♯ (LT)	B♭
5	A	E						B♭ (d5!)	A
3	F	C						G	F
8	D	A	G	F	E	D	F	E	D



Shade or cross out letter names that should not be used, such as the dissonant d5 in the eighth box. Since the first note D3 should be set with an octave, all choices but the D have been shaded; and because this is a minor-mode cantus, the C♯ has been selected (m. 8) to approach the cadence on D. Continue to eliminate other potential intervals as you make selections, such as any that would create parallel octaves or fifths (like A in the second box). Don't change the cantus, no matter how tempting it is to correct problems that way!

Try it #4

Complete the table and counterpoint in Example 9.9. Include at least one perfect interval in the middle of the setting. Write the harmonic interval numbers between the staves.

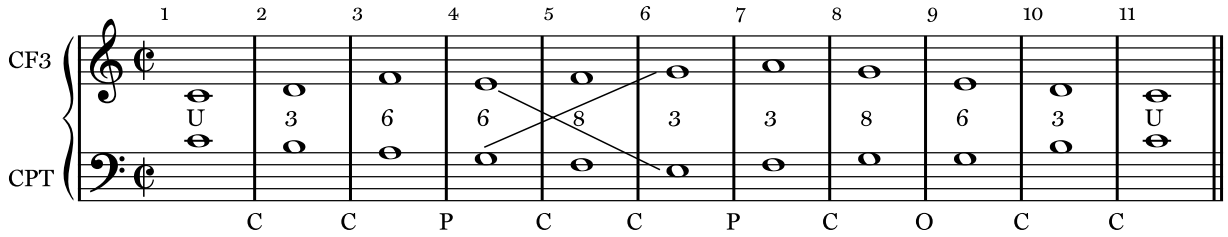
Show answers

Since the cantus may be either the upper or lower part in strict species, this feature creates the possibility for **invertible**

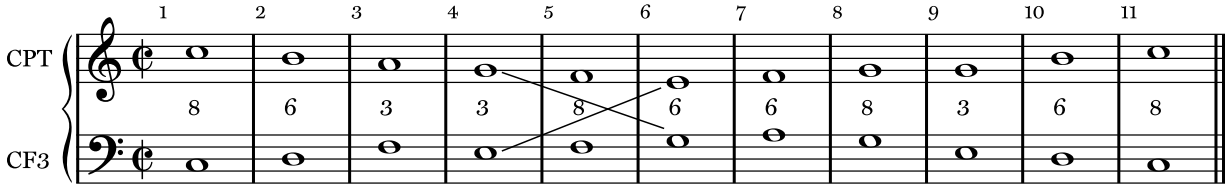
counterpoint, where the two lines may be reversed in register (e.g., the upper counterpoint may be transposed to sound below the cantus). Example 9.10 shows invertible counterpoint based on Example 9.4 (repeated here for comparison).

EXAMPLE 9.10: Cantus firmus 3 (Schenker) in invertible counterpoint

(a) CF 3 in the upper voice (Example 9.4)



(b) CF3 in the lower voice



The intervals are inverted in the two examples as well: U becomes 8, 3 becomes 6, and so on (inverted intervals sum to 9). A P5, however, may not be used in invertible counterpoint, because the inversion is a P4. The 6–8–3 voice exchange between E and G in part (a) remains a voice exchange in (b), now with the intervals 3–8–6. In the eighteenth century, counterpoint exercises were often written with the cantus notated in the middle staff of three—with one counterpoint written above and another below—to explore where invertible counterpoint worked and where it didn't. Invertible counterpoint became a key element of inventions and

fugues (as we'll see in Chapter 24).

Did You Know?

The word "counterpoint" came into use around the twelfth century; the "punctus," or point, referred to a written musical note that later became the breve (analogous to the whole note). The practice of counterpoint as a compositional technique, however, predates the term—the earliest written account is an anonymous treatise called *Musica enchiriadis* (from around 900 CE). This textbook for musicians describes adding counterpoint to a preexisting cantus firmus by doubling the melody at a fifth to make two parts, then doubling each of those parts at the octave to get four—a practice also known as organum. In the twelfth century, note-against-note (punctus to punctus) counterpoint gave way to florid organum, with many notes to one of the slow-moving cantus. Counterpoint served as the primary compositional technique in the late Middle Ages (c. 900–1430) and Renaissance (1430–1600), and its fundamental principles remain the foundation of tonal practice to this day.

TERMS YOU SHOULD KNOW

cantus firmus (or cantus)
conjunct
consonant
contrary motion
counterpoint
cross relation
crossed voices
disjunct
first species
hidden fifths
hidden octaves
invertible counterpoint
leap
note-to-note (1:1)
oblique motion
overlapping voices
parallel motion
- parallel fifths
- parallel octaves

similar motion
skip
species
step
voice crossing
voice exchange
voice-leading

QUESTIONS FOR REVIEW

1. Why is it important to learn counterpoint?
2. What sizes of melodic intervals are called steps? skips? leaps?
3. What are the four types of contrapuntal motion between pairs of voices?
4. What are the basic guidelines for composing note-to-note (1:1) counterpoint?
5. What special considerations should you keep in mind when writing perfect consonances?
6. How do you write a cadence in strict style? What additional considerations apply to minor-mode cadences?

Know It? Show It!

Focus by working through the tutorials.

Learn with InQuizitive.

Apply what you've learned to complete the workbook assignments.

10 Melodic and Rhythmic Embellishment in Two-Voice Composition

Outline

Melodic embellishment in second-species (2:1) counterpoint

- Passing tones
- Consonant skips
- Neighbor tones

Writing 2:1 counterpoint

- Opening and closing patterns
- Melodic considerations
- Harmonic considerations

Further melodic embellishment in third-species (4:1) counterpoint

Writing 4:1 counterpoint

Rhythmic displacement in fourth-species counterpoint

- Types of suspensions
- Rhythmic character of fourth species
- Breaking species and tying consonances
- Chains of suspensions

Writing fourth-species counterpoint

Fifth species and free counterpoint

Overview

In this chapter, we embellish two-voice note-to-note counterpoint with passing tones, neighbor tones, consonant skips, and suspensions in strict second-, third-, and fourth-species style. We also combine these embellishment types in fifth species, and examine a Renaissance piece to see how the species practice of the eighteenth century is evident in older compositional styles as well.

Repertoire

Cantus firmi by

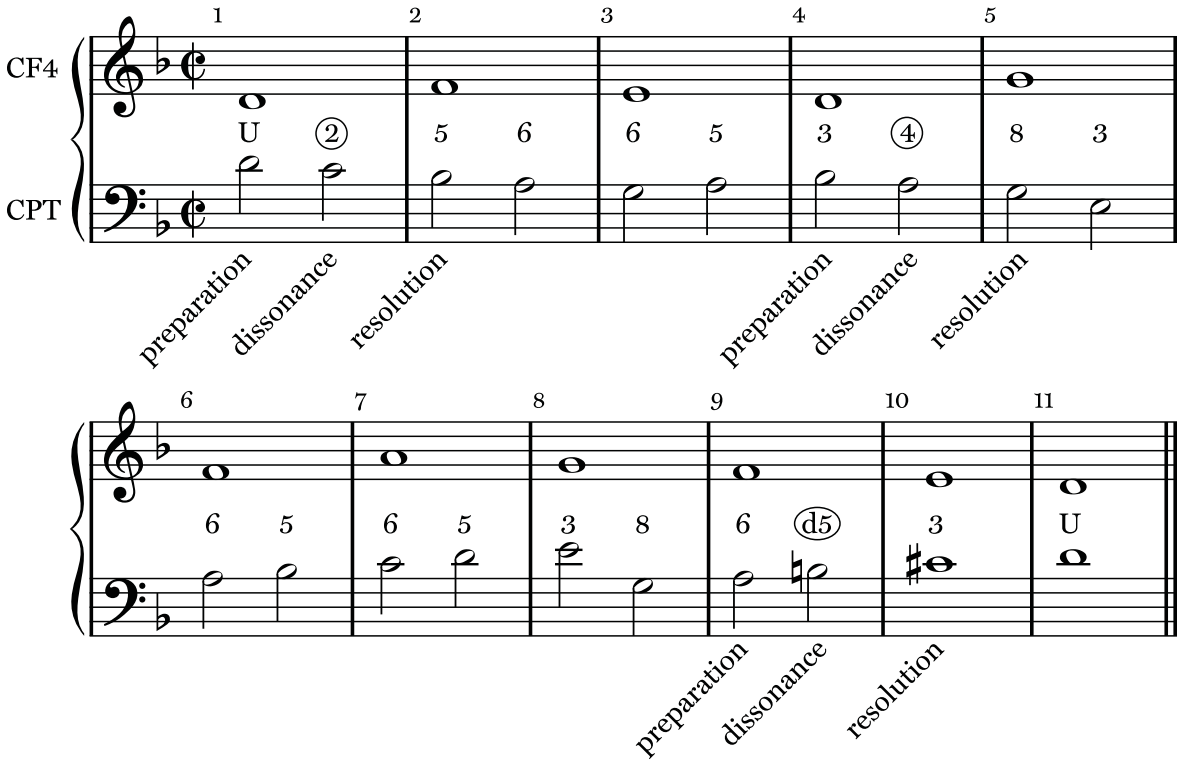
- Johann Joseph Fux (1660–1741)
- Knud Jeppesen (1892–1974)
- Johann Philipp Kirnberger (1721–1783)

Tomás Luis de Victoria, “O magnum mysterium” (“O Great Mystery”)

Melodic Embellishment in Second-Species (2:1) Counterpoint

Play or listen to the counterpoint in Example 10.1; listen particularly for the consonances and dissonances.

EXAMPLE 10.1: Cantus firmus 4 (Fux) in a second-species setting



KEY CONCEPT In strict second species (2:1), there are two half notes in the counterpoint for each whole note of the cantus.

Second species introduces the concept of **metric accent**,

since the two half notes in a measure do not carry the same "weight," or emphasis. You can consider each measure as having only one beat that's divided into two, where the first half note ("on the beat") is accented and the second (the "offbeat") is unaccented; or as having two beats (a downbeat and an upbeat). With either approach, the first half note in the measure, which corresponds with the cantus note, receives a stronger accent than the second. The unaccented notes are sometimes called diminutions because they divide the duration of the original first-species framework in half.

Second species also introduces the dissonant harmonic intervals 2, 4, A4, d5, 7, and 9 (these are circled in examples throughout).

KEY CONCEPT A dissonant harmonic interval in second-species counterpoint must fall on the unaccented second half of the measure. It is approached by step from a consonant harmonic interval (the "preparation") on the downbeat and must connect by step to a consonant harmonic interval on the following downbeat (the "resolution"). In general, a resolution is motion from a harmonic dissonance to a consonance.

You can also set two consonances against a cantus note, either by skip or leap (see Example 10.1, mm. 5 and 8), or by step with 5–6 or 6–5 intervals (mm. 2, 3, 6, and 7). Within each measure, the second half note's entry automatically creates oblique motion; connections over the bar line will feature contrary, parallel, or similar motion.

SUMMARY

Second species (2:1) introduces the following concepts:

- accented and unaccented notes in the measure;

- dissonance created by the harmonic intervals 2, 4, A4, d5, 7, and 9 in unaccented positions;
- consonant skips or leaps, and steps, with harmonic intervals 5–6 or 6–5.

Passing Tones

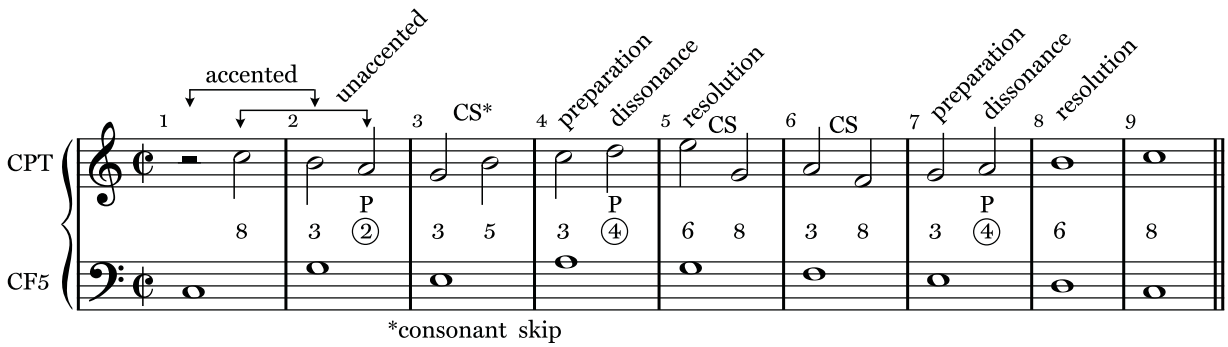
The most common type of melodically generated dissonance in 2:1 counterpoint is the passing tone.

KEY CONCEPT **A passing tone** (labeled P) is a melodic embellishment that fills in a skip by stepwise motion; it is approached by step and left by step in the same direction. Passing tones introduce the harmonic dissonance of 2, 4, or 7 on the unaccented part of the measure.

If you look back at Example 10.1, you will see dissonant passing tones in measures 1, 4, and 9. The dissonant intervals A4 (resolves to 6) and d5 (resolves to 3) may be used as passing tones only if they are followed by the appropriate interval of resolution, as in measures 9–10. Consonant passing tones with the intervals 5–6 or 6–5 are also possible (as in mm. 2, 3, 6, and 7), but because embellishing tones are analyzed mostly to examine the treatment of dissonant intervals, these consonant passing tones are usually not labeled.

More passing tones can be seen in Example 10.2 (in mm. 2, 4, and 7).

EXAMPLE 10.2: Cantus firmus 5 (Kirnberger) in a second-species setting



Consonant Skips

A second melodic embellishment introduced in second species is the consonant skip (mm. 3, 5, and 6 of Example 10.2).

KEY CONCEPT **Consonant skips** (CS) or **leaps** are melodic embellishments made when both half notes of the skip or leap form a consonant harmonic interval with the cantus.

These are also referred to as "chordal skips," even though the melodic interval traversed may be a skip or a leap and the notes may not imply chords. Consonant skips and leaps are employed, along with passing tones, to provide a mix of consonant and dissonant harmonic intervals; to balance the steps, skips, and leaps in the cantus; and to make a pleasing shape for the contrapuntal line. Avoid using too many passing tones or consonant skips in a row, or the line will be too conjunct (P) or disjunct (CS) and therefore lacking in variety.

Neighbor Tones

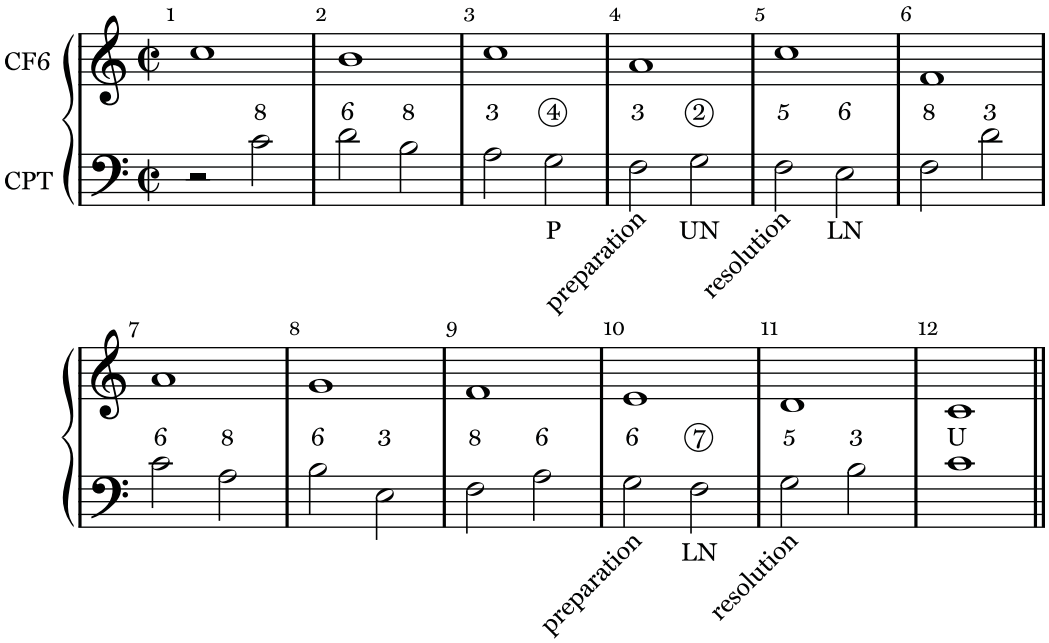
A third melodic embellishment introduced in second species is the neighbor tone (Example 10.3.)

KEY CONCEPT A **neighbor tone** (N) is a melodic embellishment on an unaccented part of a measure that decorates

a melody note by stepping to the note above or below it, then returning to the original note. Neighbor tones are approached (prepared) and left (resolved) by step, in opposite directions.

A neighbor tone that moves up by step is called an **upper neighbor** (UN), while a neighbor tone that moves down is a **lower neighbor** (LN). Neighbor tones temporarily displace the pitch they decorate, and may form consonant or dissonant intervals with the cantus. Some teachers of counterpoint restrict neighbor tones in second species to consonant intervals, while others allow dissonant ones when they help to improve the shape of the counterpoint line. We include both types, in preparation for writing in eighteenth-century style.

EXAMPLE 10.3: Cantus firmus 6 (Kirnberger) in a second-species setting



Neighbor tones are used sparingly in second-species counterpoint, and their placement requires careful

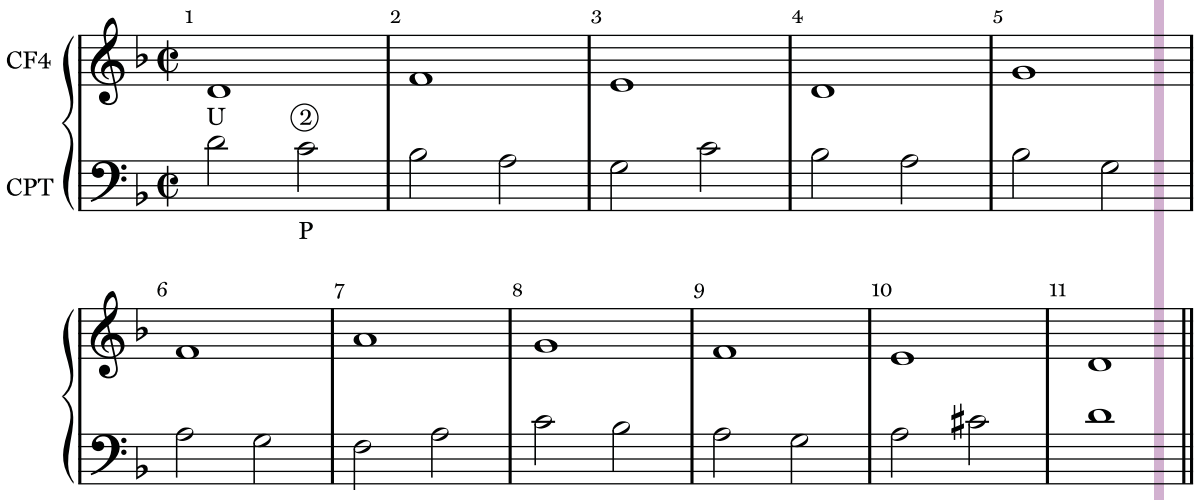
consideration. Because they return to the same note they left, too many will make a line static.

Try it #1

Analyze the harmonic intervals of the counterpoint below by writing the interval numbers between the staves and circling the ones that are dissonances. Locate and label one additional dissonant passing tone (P), two consonant passing tones, two neighbor tones (N), and four consonant skips or leaps (CS).

Cantus firmus 4 (Fux) in a second-species setting

Show answers



Writing 2:1 Counterpoint

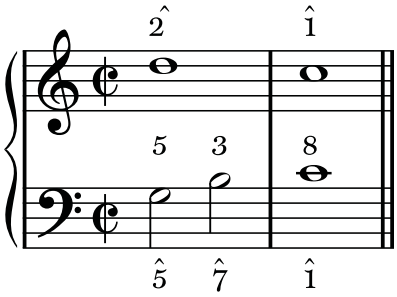
Opening and Closing Patterns

To write second-species counterpoint, follow the same general procedures as in first species: compose the opening and closing measures first to ensure that they make good harmonic and contrapuntal sense, then fill in the middle section. As in first species, the opening harmonic interval must be a P8 or PU (or P5 if the counterpoint is in the upper part). Rhythmically, the first note of the counterpoint may appear on the downbeat (Example 10.1) *or* on the upbeat to measure 2, preceded by a half rest (Examples 10.2 and 10.3). Starting with the half-measure rest is the preferred method, to allow the voices more independence.

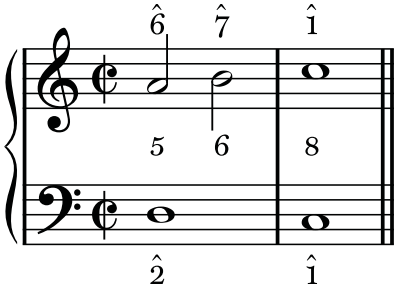
Example 10.4 illustrates some typical closing patterns. As in first species, the final note of the counterpoint is a whole note PU or P8, and the penultimate measure may be filled with either two half notes or a whole note. In parts (a) to (c), the 3–8 or 6–8 closing gesture begins on the second half note of the penultimate measure, preceded by a 5. If the penultimate measure is a whole note, as in (d) and (e), the exercise ends as in first species. And as in first species, raise both the sixth and seventh scale degrees in minor as you approach î; the resulting d5 and A4 in (d) and (e) are treated as dissonant passing tones.

EXAMPLE 10.4: Closing patterns in second species

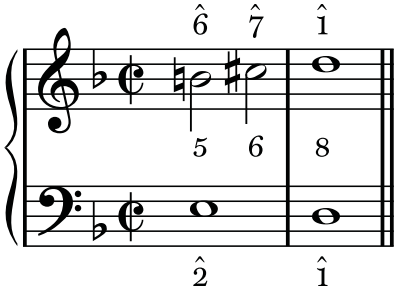
(a)



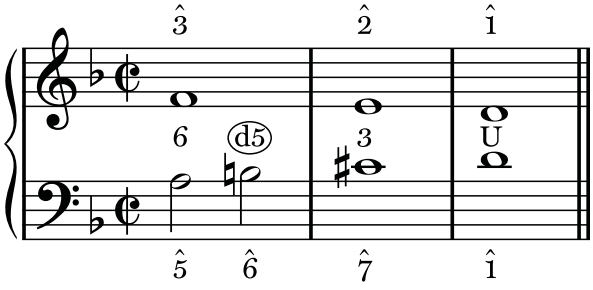
(b)



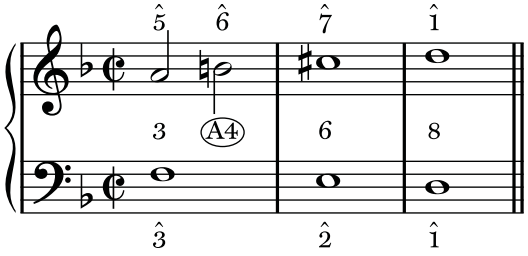
(c)



(d)



(e)

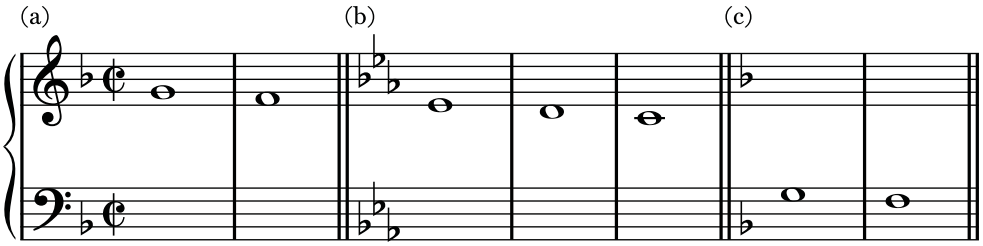


KEY CONCEPT Other than the first measure (which may begin with a rest) and the closing one or two measures, second-species counterpoint will feature two half notes per whole note of the cantus firmus. Pitches may not be immediately repeated, whether within a measure or over a bar line.

Try it #2

Write a counterpoint for the following closing patterns. Use 2:1 motion in the first measure of each, and whole notes in the other measures. Label scale degrees and harmonic intervals.

Show answers

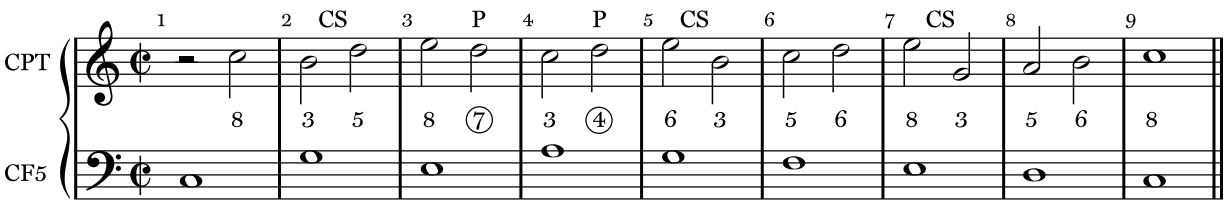


Melodic Considerations

In the middle section of the counterpoint, the embellishments most characteristic of second species are dissonant passing tones and consonant skips—although consonant passing tones, neighbor tones, and an occasional leap (as described below) may also be included to make a better line. Consider a span of at least three half notes—ideally, consider two or three measures at a time—and plan the consonant downbeats, offbeat embellishments, and contour direction for this longer stretch. As dissonant passing tones are emblematic of second species (in fact, their absence is considered an error), you may want to plan several of these as you make initial choices.

One of the challenges in writing a strong second-species setting is attending to such local details as individual passing tones and consonant skips while creating a line with an interesting and coherent overall shape. Consider Example 10.5, another setting of CF5. The opening (mm. 1–2) and close (mm. 7–9) are correctly executed, and the counterpoint in measures 1–7 is quite good if we examine two-or three-measure segments: there are consonant skips, prepared and resolved dissonant passing tones, consonant passing tones (5–6), and mostly conjunct motion against the cantus leaps. Overall, though, the line lacks a single high point or climax, and it obsessively repeats the same few pitches: B4, C5, D5, and E5.

EXAMPLE 10.5: Cantus firmus 5 (Kirnberger) in a second-species setting



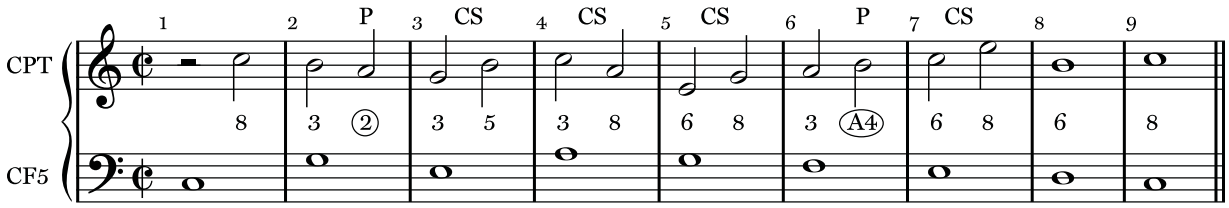
Since there *is* a tendency for second species melodies to

circle around a few pitches for too long, allow your line a wider range overall than first species–spanning an octave or tenth between its highest and lowest point–and plan a subsidiary high or low point if possible, just before or after the main climax. In the middle, for example, you may write a leap (in either direction) of an octave or fifth, or a leap upward of a minor sixth, to change the range (to avoid having the parts collide or move too far apart) or to add interest to the line. Each leap should be approached and left in such a way as to balance the line–preferably by filling in after the leap with stepwise motion in the opposite direction. In Example 10.5, a carefully placed leap in the middle or a new high point would improve the overall interest of the line.

KEY CONCEPT Leaps normally appear between the first and second half note within a measure instead of over the bar line, when the simultaneous arrival of the new cantus note would give the disjunct motion added prominence. Where possible, skip or leap within the bar lines, but step over them.

Example 10.6 illustrates this principle. If you plan thirds on the downbeats of measures 3 and 4, there will be a melodic fourth between these accented beats, with no possibility of a stepwise connection. A consonant skip within measure 3 and a step over the bar will connect the beats nicely.

EXAMPLE 10.6: Cantus firmus 5 (Kirnberger) in a second-species setting



Where there is too much stepwise motion in one direction or a static line, a P4 or P5 leap within a measure may substitute for a consonant skip of a third. Two consonant skips or a skip followed by a small leap (P4) in the same direction are also acceptable (as in mm. 4–5); they are treated as the equivalent of a leap of a fifth or sixth from downbeat to downbeat in first species. Ideally, approach any leap (or combination of skips equating to a leap) from the opposite direction, and leave it in the opposite direction as well (mm. 4–5).

Whether you are writing steps, skips, or leaps, don't progress more than an octave in one direction. Neither conjunct nor disjunct motion should be used to excess: the main purpose of second species is to explore the dissonant passing tone and consonant skip through a careful balance of skips, leaps, and steps.

SUMMARY

To write a good contrapuntal line in second species:

- Use a wider range than in first species, with steps, skips, and leaps.
- Create one high point to the line, and a subsidiary one if possible.
- Include a leap, on the offbeat, to change the range or create melodic interest.
- Consider two skips, or a skip plus small leap (P4), as equivalent to a leap.
- Ideally, after a leap, follow with motion in the

opposite direction.

Harmonic Considerations

The primary harmonic consideration in second species is that the interval on the first half note of each measure must be a perfect or imperfect consonance; write dissonant passing or neighbor tones only on the second half note. Unisons are likewise allowed only on the upbeat, and must be left by motion contrary to their approach (alternatively, move the counterpoint line up or down an octave to avoid them). As in first species, treat perfect intervals with special care.

KEY CONCEPT To avoid hidden (or direct) fifths and octaves, approach intervals P5 and P8 by step in the upper part, ideally in contrary motion. Don't approach either one in similar motion with a skip or leap in the upper voice.

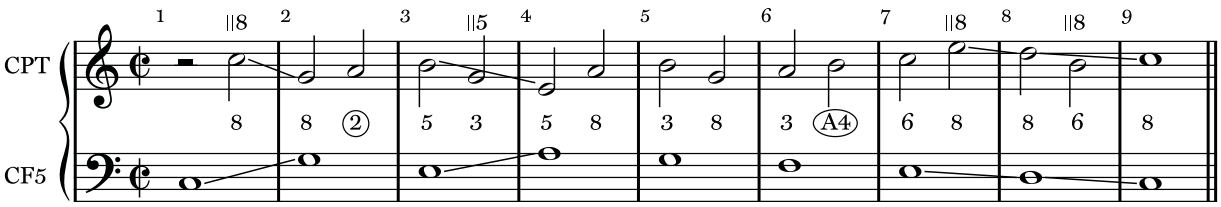
With the addition of melodic embellishments in 2:1 counterpoint, you have new opportunities for forbidden parallel motion between perfect intervals. For this reason, you should evaluate the harmonic intervals in two ways: from the downbeat of one measure to the downbeat of the next and from each note to the next. The motion from downbeat to downbeat should follow first-species guidelines. For example, perfect consonances of the same size from downbeat to downbeat will create parallel fifths or octaves (prohibited), no matter what the intervening note on the offbeat is. No more than three consecutive downbeats should have the same imperfect consonance (3–3–3 or 6–6–6).

KEY CONCEPT Always double-check your counterpoint for parallel perfect intervals not only from

downbeat to downbeat (as in 1:1, "downbeat-to-downbeat parallels"), but also from upbeat to downbeat over the bar line ("adjacency parallels").

Example 10.7 includes both kinds of prohibited motion: downbeat-to-downbeat parallels in measures 3–4 and 8–9 and adjacency parallels in 1–2 and 7–8. Perfect intervals on the upbeats of two consecutive measures *are* permitted (as in mm. 4–5), but not more than two in a row of the same type, as they will attract attention. Overall, the counterpoint in Example 10.7 includes too many perfect intervals, with only two dissonant passing tones. (Still, mm. 4–7 could work with a revised opening and closing, and mm. 6–7 illustrate the correct resolution of the dissonant passing tone A4 to a 6.) When you have finished your counterpoint, perform it (at the keyboard or with a partner) to check for parallel perfect intervals, inappropriate dissonances, or other errors.

EXAMPLE 10.7: Prohibited parallel motion in second-species counterpoint



SUMMARY

To write a 2:1 counterpoint in strict style:

1. Start with either a half rest or half note on the downbeat of the first measure; the first harmonic interval should be an 8 or U (or 5 if the counterpoint is the upper part).

2. End with a whole note in the last measure and the harmonic intervals 5–6–8 or 5–3–8 (or U) in the last two measures; or make the last two notes whole notes 6–8 or 3–8 (U), as in first species.

3. Other than at the beginning and close, use half notes for the counterpoint; don't immediately repeat the same pitch.

4. Write consonant harmonic intervals on the beat; they may also appear on the upbeats, approached as steps, consonant skips, or consonant leaps.

5. Include dissonant harmonic intervals (2, 4, 7, 9, and d5 and A4 if resolved correctly) on the upbeats as passing or (more rarely) neighbor tones.

6. Check from one downbeat to the next and from an upbeat to the next downbeat for parallel fifths or octaves; perfect fifths and octaves are allowed from one upbeat to the next, but no more than two in a row.

7. Intervals on the downbeat are normally approached by step (preferred) or skip; avoid similar motion into a P8 or P5 over the bar line unless the upper voice moves by step.

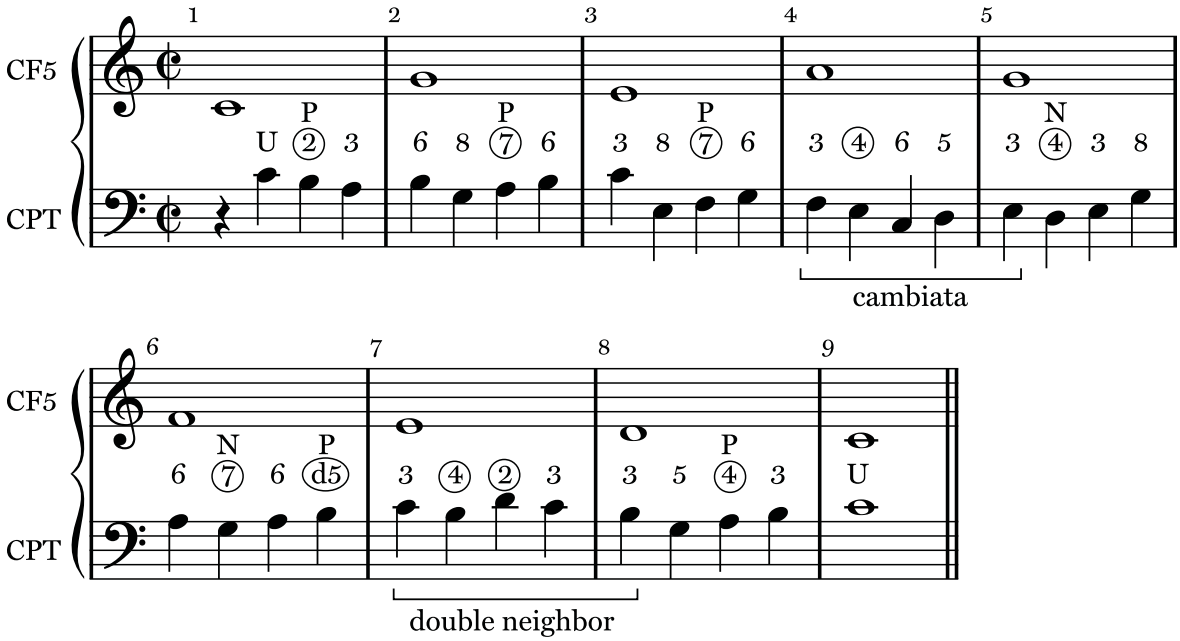
8. Use no accidentals except to raise $\hat{7}$ (and $\hat{6}$ if necessary) at the close in minor.

9. Continue to follow the guidelines for 1:1 counterpoint with respect to the overall motion between the parts (contrary, parallel, similar, oblique) and principles of good melodic writing.

Further Melodic Embellishment in Third-Species (4:1) Counterpoint

In **third-species** (4:1) counterpoint, the cantus whole note is set with four quarter notes, as in Example 10.8. Third species is thus a further rhythmic diminution of second species: each half note of second species is divided in two to make quarter notes. Again, the strongest accent falls on the first of the four quarter notes (the beat, or downbeat), which enters with the cantus note. The third quarter note (upbeat, analogous to the second half note in second species) takes a lesser accent, while the second and fourth quarter notes are unaccented. In third species, our main concern is to incorporate more elaborate embellishments—passing and neighbor tones, consonant skips—while maintaining a good balance between the voices and a pleasing overall contour.

EXAMPLE 10.8: Cantus firmus 5 (Kirnberger) in a third-species setting



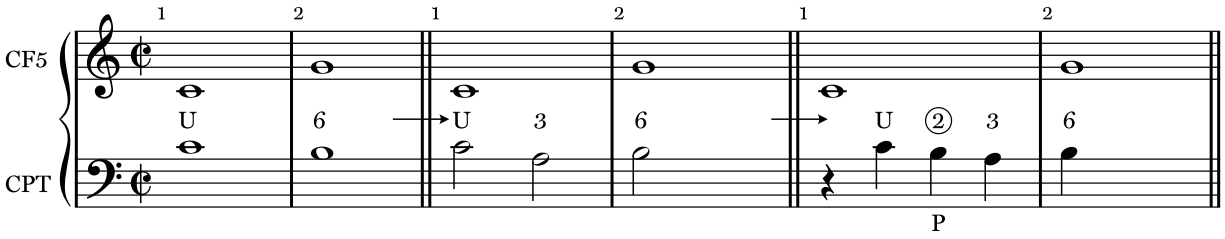
As you can see in Example 10.8, consonant skips (especially two or more in a row) are less common in third species than in second. While leaps occasionally appear in the middle of a measure to improve the distance between the lines (as in m. 3) or for variety, the emphasis is on passing and neighbor tones creating a smooth, flowing, conjunct counterpoint. To help achieve this, connections from the fourth quarter note to the first over the bar will normally be by step.

As should also be clear from Example 10.8, third species offers many possibilities for embellishments. Example 10.9 illustrates how some embellishments from Example 10.8 relate back to 1:1 and 2:1 frameworks. In parts (a) and (b), a first-species model is elaborated in two stages. Part (c) introduces a new embellishment: the **cambiata**, which combines passing and neighboring tones to make a figure with an apparent skip from a dissonance on the second quarter note (E3 in m. 4). This E3, a passing tone, resolves on the fourth note (D3). Another new embellishment, the **double neighbor** (DN, part d), combines successive upper and lower neighbors (in either order) around the same main pitch (here, C4). The second neighbor (D4) must resolve (to C4), and the figure must continue to the next beat in

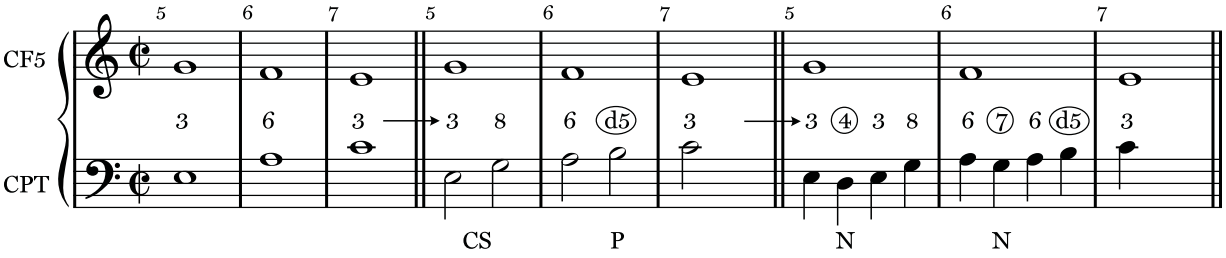
the same direction as the resolution (to B3) to complete the pattern.

EXAMPLE 10.9: Building third-species embellishments from a 1:1 or 2:1 framework

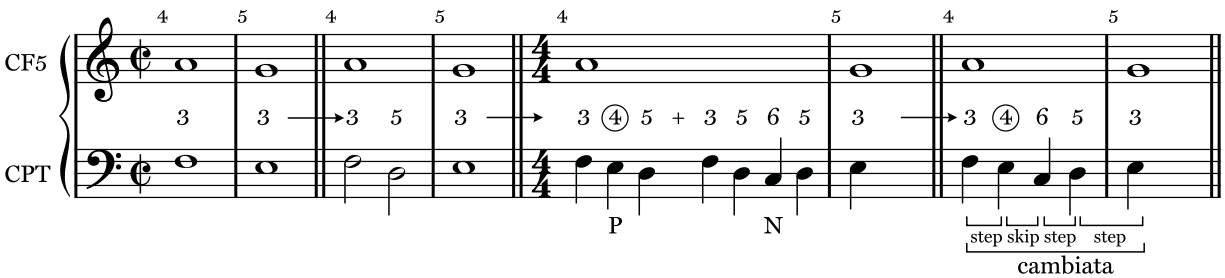
(a) Mm. 1–2



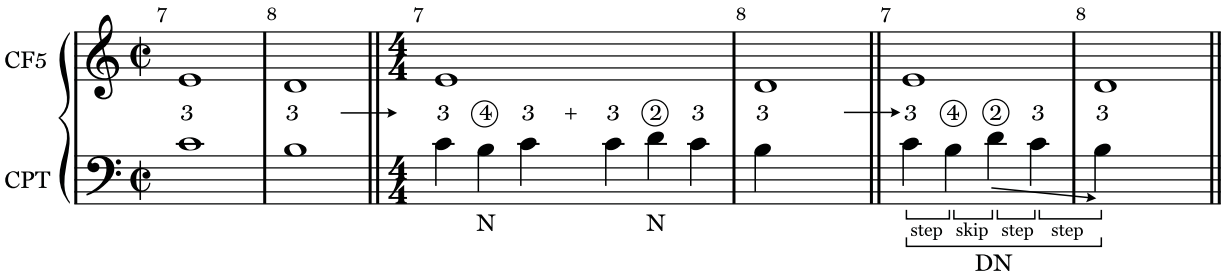
(b) Mm. 5–7



(c) Mm. 4–5



(d) Mm. 7–8

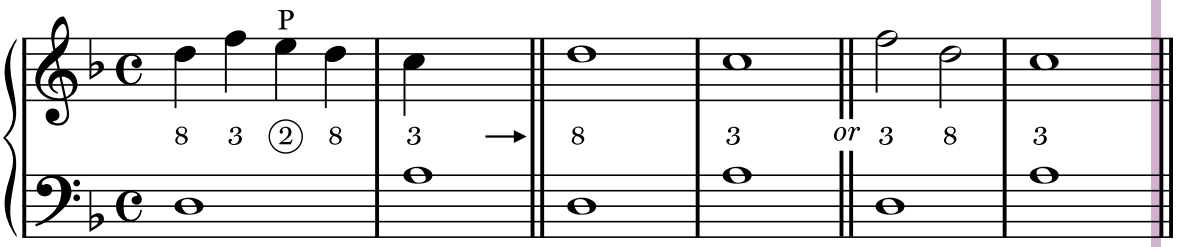


Try it #3

For each of the given 4:1 segments below, label the harmonic intervals between the parts, circle the dissonant intervals, and label them as P or N. Then identify a possible underlying note-to-note or 2:1 framework and write it in the blank treble staff to the right.

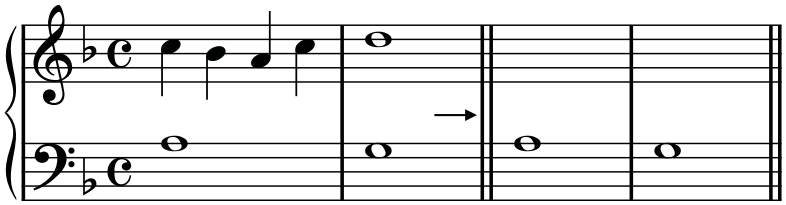
Show answers

(a)



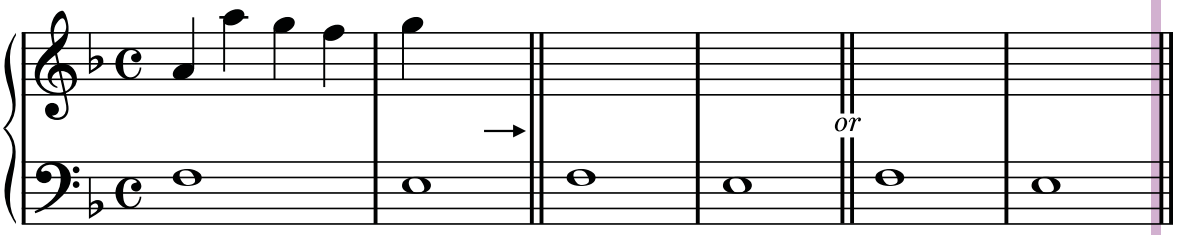
Show answers

(b)



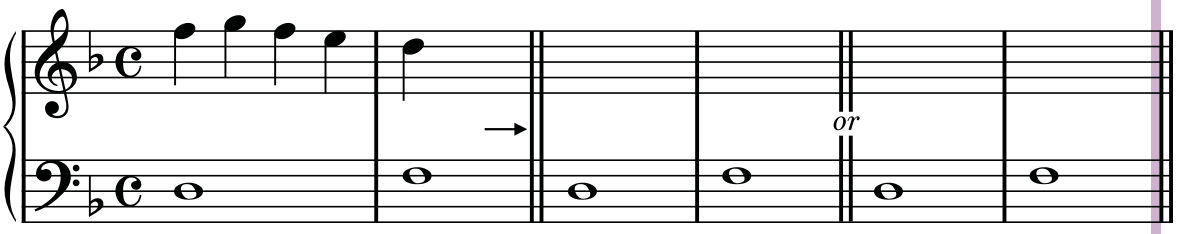
Show answers

(c)



Show answers

(d)

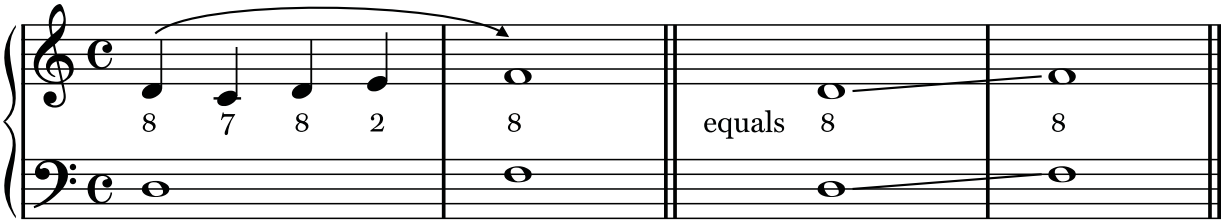


Most of the guidelines for second species apply to third as well: the harmonic interval on the first quarter note of each

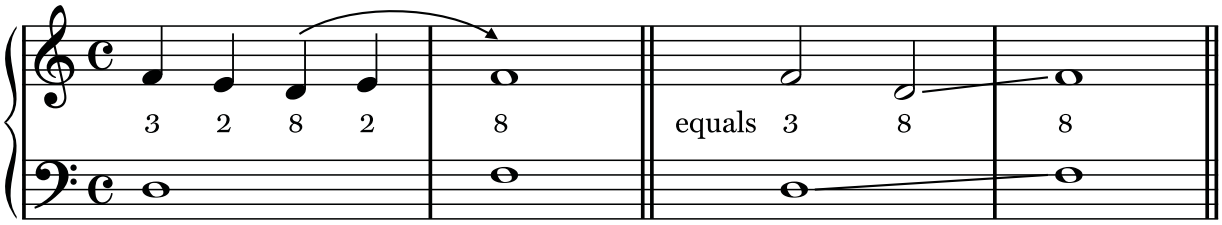
measure must be consonant; those for the other quarter notes may be either consonant or dissonant. Avoid downbeat-to-downbeat, upbeat-to-downbeat, and adjacency parallels over the bar line (see Example 10.10). Parallel perfect intervals from the second quarter note of one measure to any part of the following measure are acceptable, as are those from the third or fourth quarter note of a measure to any part of the following measure after the downbeat. Look back at your answers to *Try it* #3, and check to see if you incorporated parallels.

EXAMPLE 10.10: Parallel octaves and fifths in third species

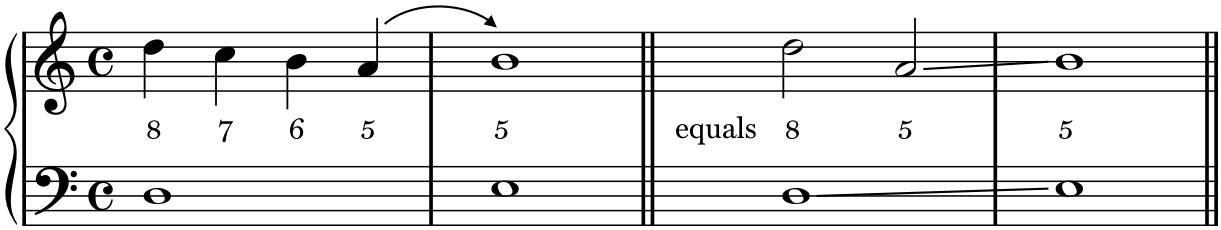
(a) Downbeat-to-downbeat parallels



(b) Upbeat-to-downbeat parallels



(c) Adjacency parallels

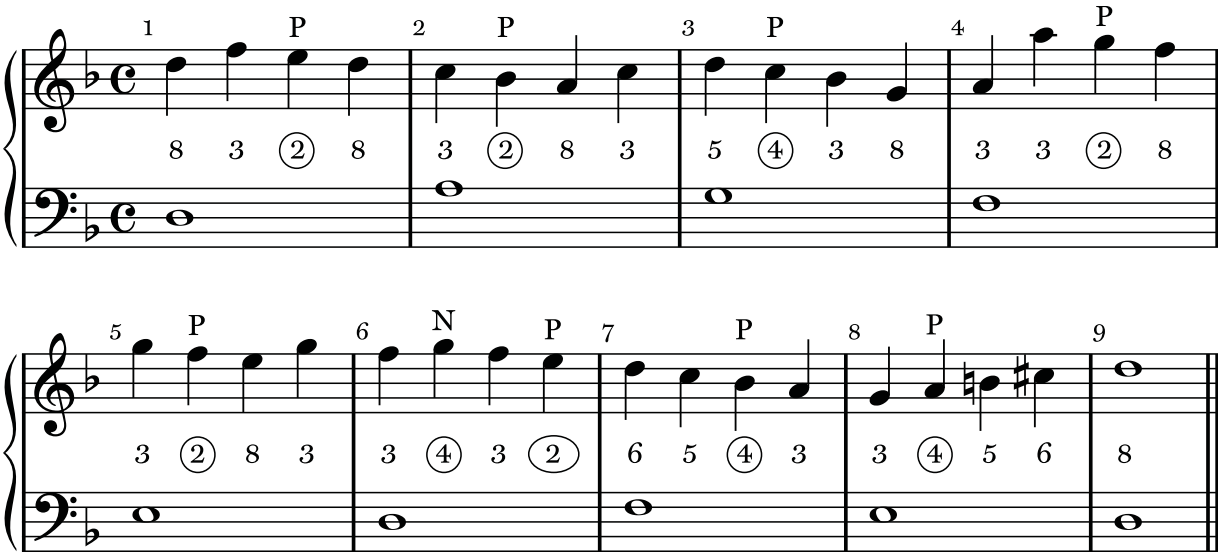

8 7 6 5
5
equals 8
5
5

Writing 4:1 Counterpoint

As in first and second species, compose the opening and closing measures first, then fill in the middle section; the opening harmonic interval, again, is a P8 or PU (or P5 if the counterpoint is in the upper part). Rhythmically, the first note of the counterpoint may appear on the downbeat (Example 10.11), making four quarter notes in the measure, or as the second quarter note, preceded by a quarter rest (Example 10.8). While starting with the quarter rest is preferred, starting on the downbeat sometimes provides a smoother connection to the downbeat of the second measure or a better contour.

As in first species, the final note of the counterpoint is a whole note PU or P8, but it is preceded by four quarter notes in the penultimate measure (see Examples 10.8 and 10.11). In minor, raise both the sixth and seventh scale degrees as you approach î (Example 10.11).

EXAMPLE 10.11: Cantus firmus 2 (Fux) in a third-species setting



In planning your counterpoint, consider both the overall contour (as always) and where you can incorporate dissonant intervals. The downbeat quarter notes must all be consonances, but any other quarter note may be a dissonant passing or neighbor tone (every measure of Example 10.11 except the last has at least one). You may start with a soprano/bass framework as for first or second species, but may also plan a dramatic leap within a measure (such as that in Example 10.11, m. 4), to make a soaring line. Compare the excerpts in *Try it* #3 (which are taken from Example 10.11) to see how these two-measure segments relate to first or second species, and how the leap was created.

KEY CONCEPT To write a 4:1 counterpoint:

1. **Think in groups of five rather than four**. Connect each group of four quarter notes smoothly to the next beat, "stepping over the bar." Avoid the same melodic shape in two consecutive measures.
2. **Use consonant skips**. Starting with a note-to-note framework, add a skip to a consonance and back, then fill in one of the skips with a passing tone (Example 10.9a). Avoid too many skips in one direction (two are usually enough) and isolating pitches by skipping (or leaping) both into and out of them.
3. **Use passing tones**. Fill in consonant skips with passing tones (Example 10.11, m. 1), or plan a stepwise line from one downbeat to the next.
4. **Use neighbor tones**. Neighbor tones may decorate a repeated pitch, or a double neighbor may turn one beat of note-against-note into 4:1 (Example 10.9d); too many double neighbors, though, will create a "circular" melodic line. Combine a neighbor pattern with a passing tone (in either order) to fill in a

skip (Example 10.9b, m. 6; Example 10.11, m. 6).

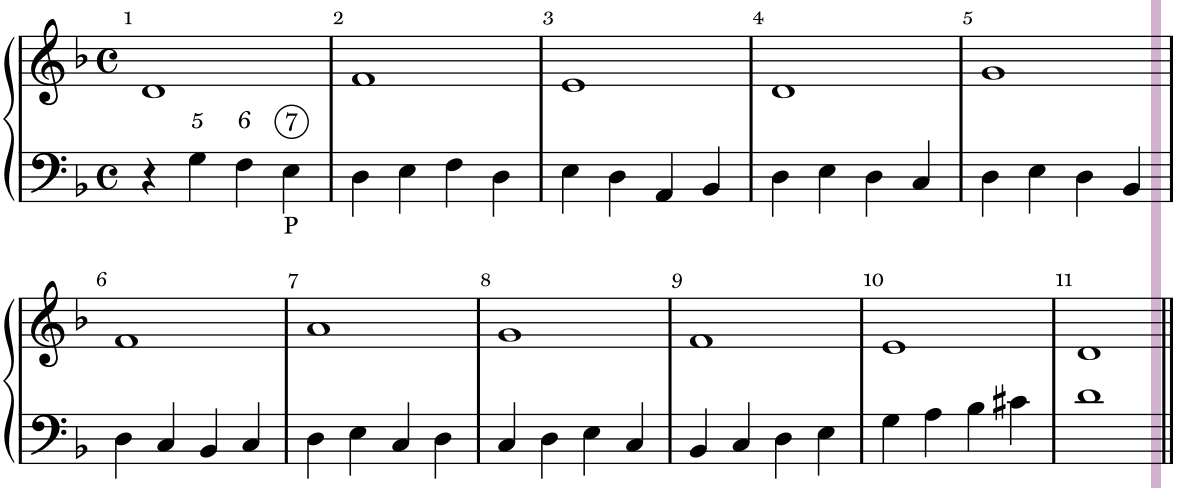
5. **Every dissonant interval should be a passing or neighbor tone**, unless it is part of a cambiata or double neighbor. Make sure the dissonant pitch "passes" or "neighbors" correctly!
6. **Watch for forbidden parallels**. Check each pair of measures for parallel octaves or fifths in three places: on consecutive beats (downbeat-to-downbeat parallels), from the third quarter (upbeat) to the next downbeat, and from the fourth quarter to the next downbeat (adjacency parallels). Example 10.10 shows all three types of parallels.
7. **Write interval numbers between the lines** to check for the correct use of dissonance and for parallels.
8. **Check the contour**. Make sure your counterpoint has an interesting melodic contour, rising to a single high point, ideally with a subsidiary high point as well. The line should not proceed more than an octave in a single direction.
9. **Listen**. Always sing or play your counterpoint—each line separately and the two lines together—to check your work. If it sounds wrong, it probably is. (The reverse—if it sounds right, it usually is—does not always work, but as you learn more about counterpoint, your ability to hear correct and incorrect progressions will improve.)

Try it #4

The counterpoint below incorporates some common errors in third-species writing. Start by writing the harmonic interval numbers between the lines, then circle any dissonant intervals and label their type (P, N). Identify the measure(s) where you find the following errors (for parallels,

indicate the measure where they “land”).

Show answers



Parallel octaves: _____ Parallel fifths: _____

Incorrect starting, ending, or downbeat interval: _____

Skip/leap to/from a dissonance: _____

Inappropriate melodic interval: _____

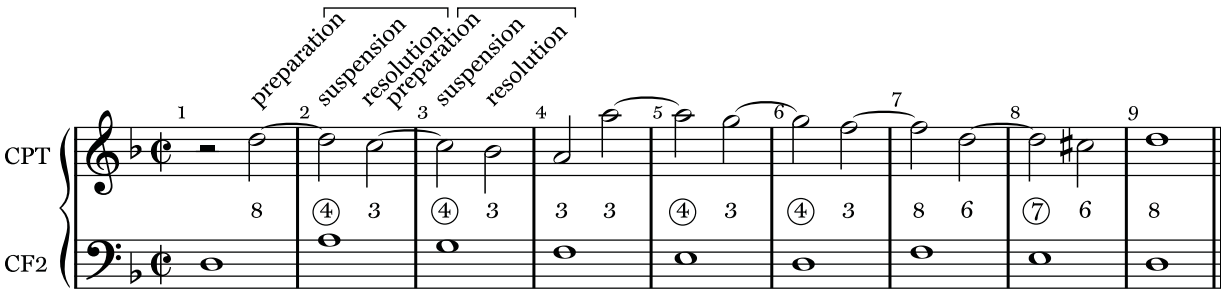
Static line: _____

Incorrectly executed cambiata or double neighbor: _____

Rhythmic Displacement in Fourth-Species Counterpoint

In the species we have considered so far, the basic note-to-note framework has been elaborated by adding pitches to the counterpoint to create consonant or dissonant harmonic intervals and provide melodic motion. Now we learn a second general category of elaboration–rhythmic displacement–where consonant pitches are shifted in time to create dissonant harmonic intervals, which then resolve. The most common type of rhythmic displacement is the suspension, studied in **fourth species** (Example 10.12).

EXAMPLE 10.12: Cantus firmus 2 (Jeppesen) in a fourth-species setting



KEY CONCEPT A **suspension** is a rhythmic embellishment created when a consonant pitch is held over (suspended) to the first beat of the next measure, forming a harmonic dissonance until the suspended voice moves down by step. Suspensions consist of three parts (marked on Example 10.12):

- a consonant harmonic interval (the preparation) on the second

half of the measure;

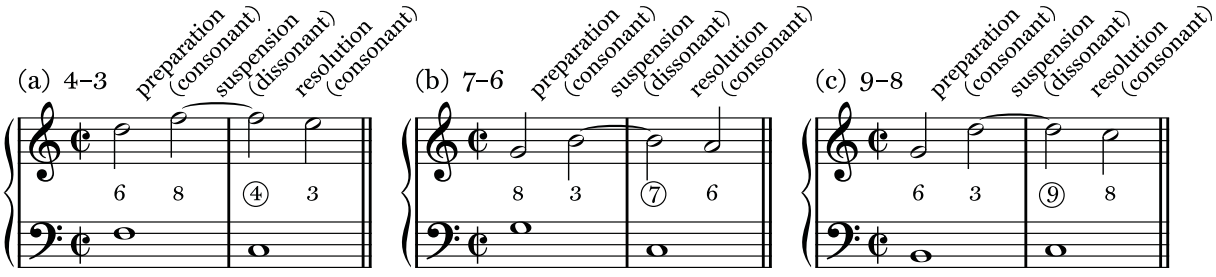
- the consonant pitch held over to the first half of the next measure to make an accented dissonant interval (the suspension);
- the resolution of that dissonance down by step on the second half of the measure to a consonant interval (the resolution), which may itself serve as the preparation for the next suspension.

Types of Suspensions

Upper-Voice Suspensions There are only three types of dissonant upper-voice suspensions, as labeled in Example 10.13.

KEY CONCEPT Suspensions are named by the numbers of the dissonant harmonic interval and its resolution. The most familiar upper-voice suspensions are 4–3 (part a) and 7–6 (part b); both resolve to imperfect consonances, and both appear in Examples 10.12 and 10.13. The 9–8 suspension (Example 10.13c) may appear in an upper voice as well, but is less satisfactory because it resolves to a perfect consonance.

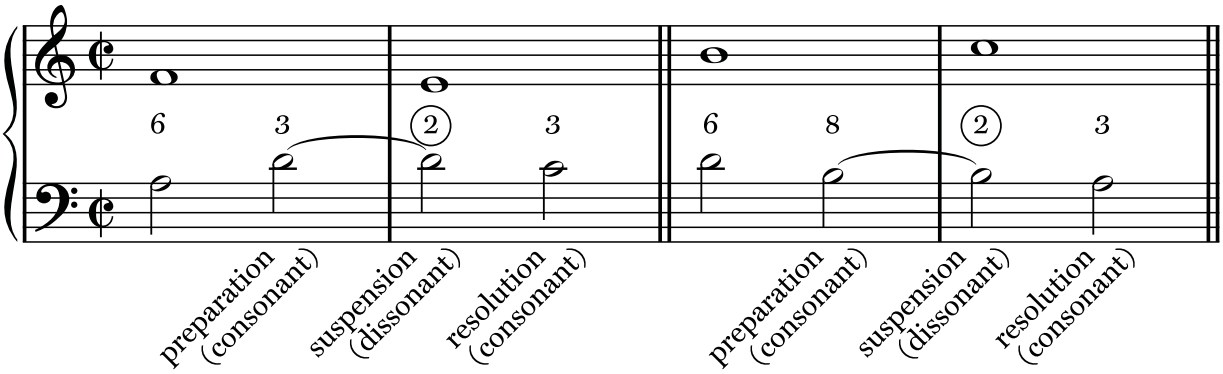
EXAMPLE 10.13: Suspension types in the upper part



In 4–3 suspensions, make sure the counterpoint note making the interval 4 is not $\hat{7}$; the combination of $\hat{7}$ with $\hat{4}$ in the cantus makes an A4, which should resolve outward, not "downward."

Lower-Voice Suspensions As for dissonant suspensions made by displacement of the bass, the only common one is 2–3 (Example 10.14) and its octave expansion 9–10 (usually labeled 2–3), resolving to an imperfect consonance. Don't write the intervallic successions 4–5 or 7–8, or a 4–3 or 7–6 suspension with the dissonance resolving up (no matter how tempting!); these are not acceptable suspensions in the lower part.

EXAMPLE 10.14: Suspension types in the lower part (2–3)



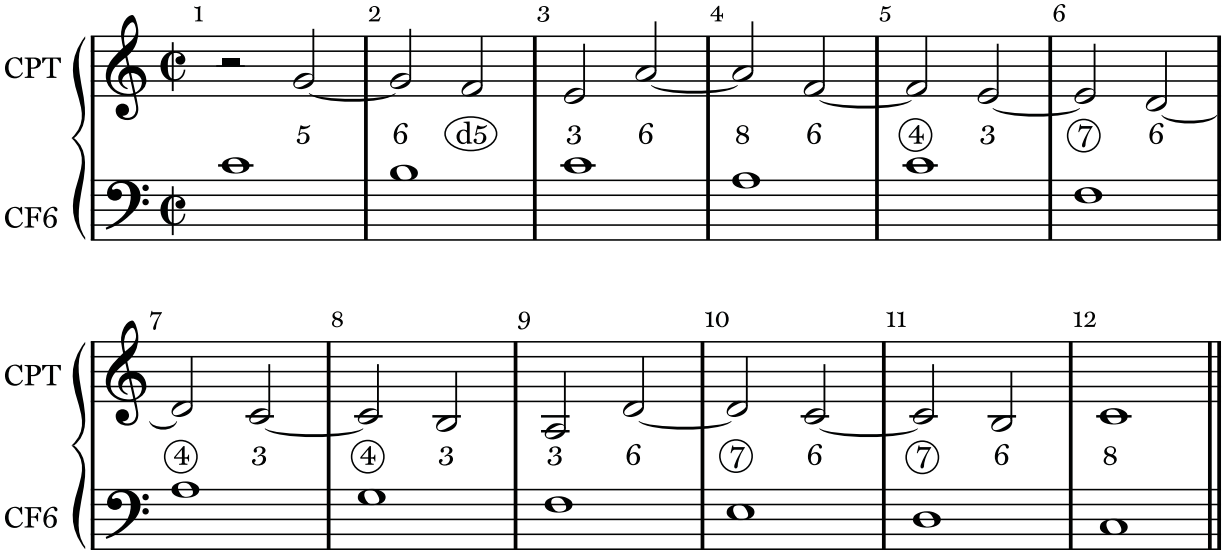
Rhythmic Character of Fourth Species

Because of these pervasive suspensions, one of the immediately recognizable aspects of fourth species is its rhythmic character: two half notes are set against a whole note (as in second species), but the second half note in most measures is tied over to the following downbeat. The parts sound in alternation, with the new cantus notes entering on the downbeat and the new counterpoint notes primarily on the upbeats. You could think of suspensions as consonant intervals of a note-to-note first species that, rather than moving to the next pitch on time, are

held so that the next pitch arrives late—a rhythmic displacement. In traditional fourth-species counterpoint, it is essential to maintain the rhythmic displacement almost exclusively throughout the setting, employing suspensions as much as possible.

As in Examples 10.12 above and 10.15 below, the counterpoint line begins with a half rest to start the rhythmic alternation of the parts; and the series of ties ends in the penultimate measure, whose second half note (the leading tone) is never tied over in strict style, but resolves to the octave or unison as in previous species. This works well with stepwise, descending portions of the cantus, as in measures 7–11 of Example 10.15.

EXAMPLE 10.15: Cantus firmus 6 (Kirnberger) in a fourth-species setting



Breaking Species and Tying Consonances

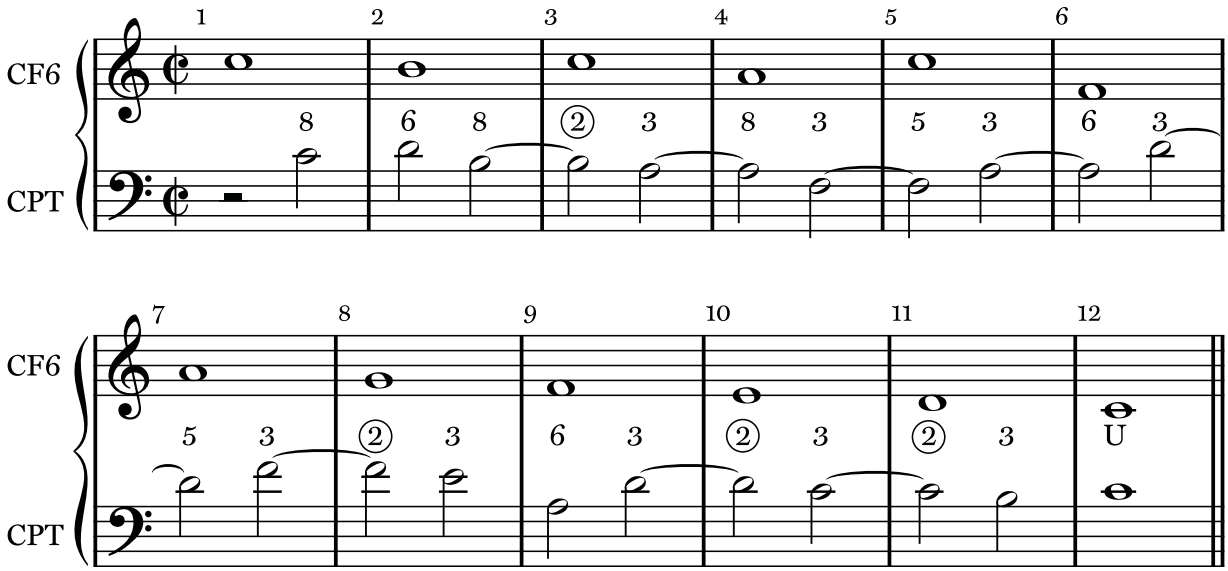
Though the main objective of fourth species is to learn to write dissonant suspensions, a consonant interval may sometimes be tied over to another consonance (Example 10.15, mm. 3–4); or

there may be a disruption of the series, called **breaking species** (mm. 2–3 and 8–9). Since suspensions always resolve down, fourth-species counterpoints tend to "go downhill"; a leap upward allows the suspensions to start down again. In strict style, composers break species as little as possible, but will use this technique after three suspensions in a row of the same type to make the line less repetitive. They may also break species when there is no consonance available to tie over (Example 10.15, mm. 2–3), or to set up a particular suspension figure, especially approaching the close (e.g., mm. 8–9, setting up a pair of 7–6 suspensions).

Breaking species, then, means that a short span of the exercise will be written as if in second species. The disjunct first half of the cantus in Example 10.15 makes it difficult to set measures 1–6 without breaking species somewhere. Fourth-species settings work best with stepwise, descending sections of the cantus; cantus lines with skips or leaps or ascending steps are more challenging.

Since there are fewer dissonant suspension options in the bass (only 2–3), preparing a good counterpoint when the cantus is in the upper part is challenging: such settings will require (1) consonances tied across the bar against the skips and leap in the cantus (Example 10.16, mm. 4–7), and (2) breaking species (as in mm. 1–2 and 8–9). When tying a consonance on the upbeat to a consonance on the downbeat, the downbeat consonance does not have to resolve because it is not a dissonance; it may connect by step, skip, or leap to the next consonance. Tying over a consonance is preferred to breaking species because it retains the rhythmic character of this species.

EXAMPLE 10.16: Cantus firmus 6 (Kirnberger) in a fourth-species setting



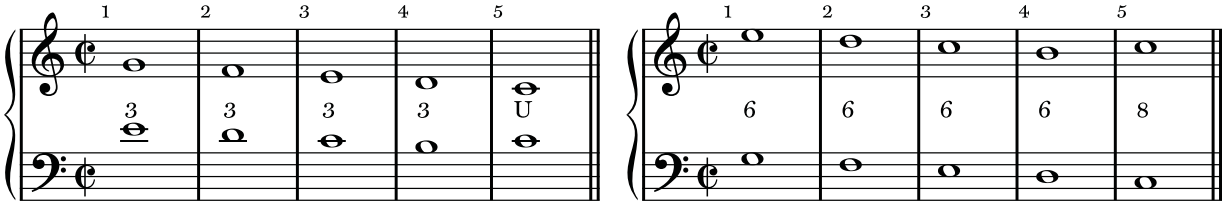
Some teachers allow a unison in this species if it results from a consonance-to-consonance tie (at either end of it) and does not fall in an area where species is broken. Although we prefer that the voices are moved wider apart to make what was a unison an octave, the choice depends on which is considered a more serious error—unison or wider spacing.

Chains of Suspensions

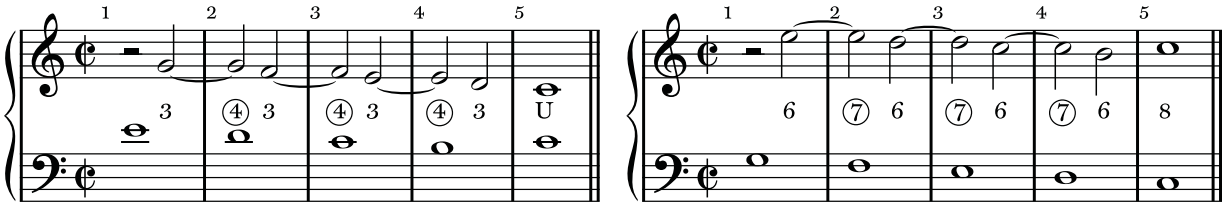
When the cantus features a stepwise descending line, you may want to follow one suspension in the counterpoint with another of the same type, creating a **chain of suspensions**. Such a chain is actually a rhythmic displacement of a note-to-note series of descending parallel thirds or sixths, as shown in Example 10.17. Only 4–3, 7–6, and 2–3 suspensions are used in chains, as 9–8 or 5–6 or 6–5 chains would imply parallel octaves or fifths.

EXAMPLE 10.17: Chains of suspensions

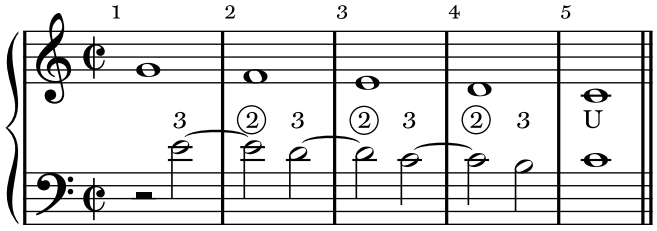
(a) Note-to-note parallel thirds and sixths



(b) Chain in the upper part



(c) Chain in the lower part



Writing Fourth-Species Counterpoint

When writing a fourth-species counterpoint, first complete the opening and closing patterns, then consider the cantus to determine where you can place dissonant suspensions. The opening harmonic interval is either a P8 or P5 when the counterpoint is in the upper voice, a P8 or PU when in the lower voice.

Although the counterpoint usually begins with a half rest followed by a half note, as we have seen, a half note followed by a half note (which is then tied over) is also allowed. The required ending is a 7–6 suspension if the counterpoint is in the upper voice, or a 2–3 (or 9–10) if in the lower voice, leading to the final whole note P8 or U; the last note in the penultimate measure is not tied over to the final measure. In minor-mode settings, raise ♭7 to make the leading tone at the cadence, as in Example 10.12.

SUMMARY

In fourth species, use dissonant suspensions as much as possible. The acceptable dissonant suspensions are 7–6, 4–3, and 9–8 when the counterpoint is in the upper part, and 2–3 when in the lower part. Include consonant suspensions or break species as necessary, for the following reasons:

- when there are skips, leaps, or ascending steps in the cantus and dissonant suspensions are not possible;
- to make a more interesting line;
- to reestablish a proper distance between the parts if they are about to cross;

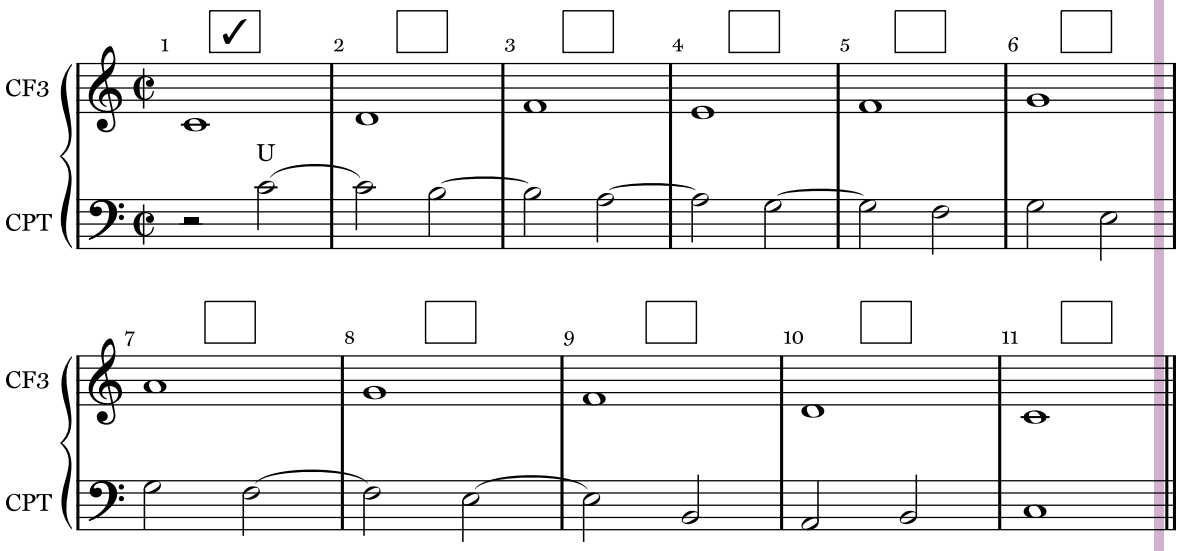
- to conclude a suspension chain after three statements;
- to prevent counterpoint errors;
- to solve difficult places in the cantus where a dissonant suspension (or even any type of tie over the bar) is not available.

Try it #5

The following counterpoint is chock full of errors. Start by writing in the harmonic interval numbers, then check the suspensions. In the box above each measure, mark those that are good with a check, and those that are flawed with an X. Identify what type of error you find in each measure marked with X.

Cantus firmus 3 (Schenker) in a flawed fourth-species setting

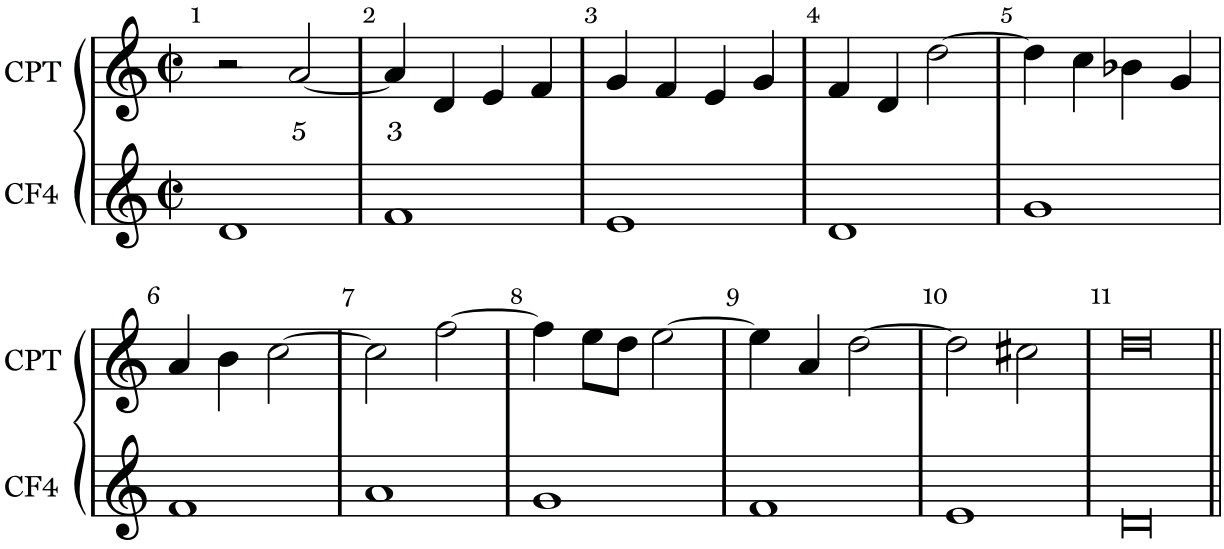
Show answers



Fifth Species and Free Counterpoint

After learning fourth species, the next step for eighteenth-century music students was to create a counterpoint with varied rhythm called **fifth species**, which may include quarter notes (from third species), half notes (second species), half notes tied over the bar (fourth species), and whole notes (first species) mixed together. The counterpoint in Example 10.18, in Dorian mode (from Fux's *Gradus ad Parnassum*), is one that eighteenth-century musicians would have known. Play through or sing it with your class, then evaluate the intervals between the voices.

Example 10.18: An example of fifth species from *Gradus ad Parnassum*



Try it #6

Write the harmonic interval numbers between the staves of Example 10.18. Circle the number for any dissonant interval, and

Show answers

label any passing or neighbor tones, consonant skips, or suspensions; for now, disregard Fux's eighth notes in measure 8.

The opening and close of Fux's counterpoint are standard from fourth species, while measures 2–6 are based on third species. As is customary in fifth species, the 7–6 suspensions in measures 8–9 are "ornamented"—first by a pair of eighth notes, then by a leap away to a consonance—before the dissonance resolves; the dissonant suspension and any embellishment total a half note's duration, with the resolution on the third quarter note. In measure 8, the D5 eighth note may at first glance seem to be a neighbor tone, but that would imply an early arrival of the suspension's resolution; instead, there is a skip to a consonance from F5 to D5, filled in with a passing tone (E5). All tied notes in measures 1–7 are consonant suspensions.

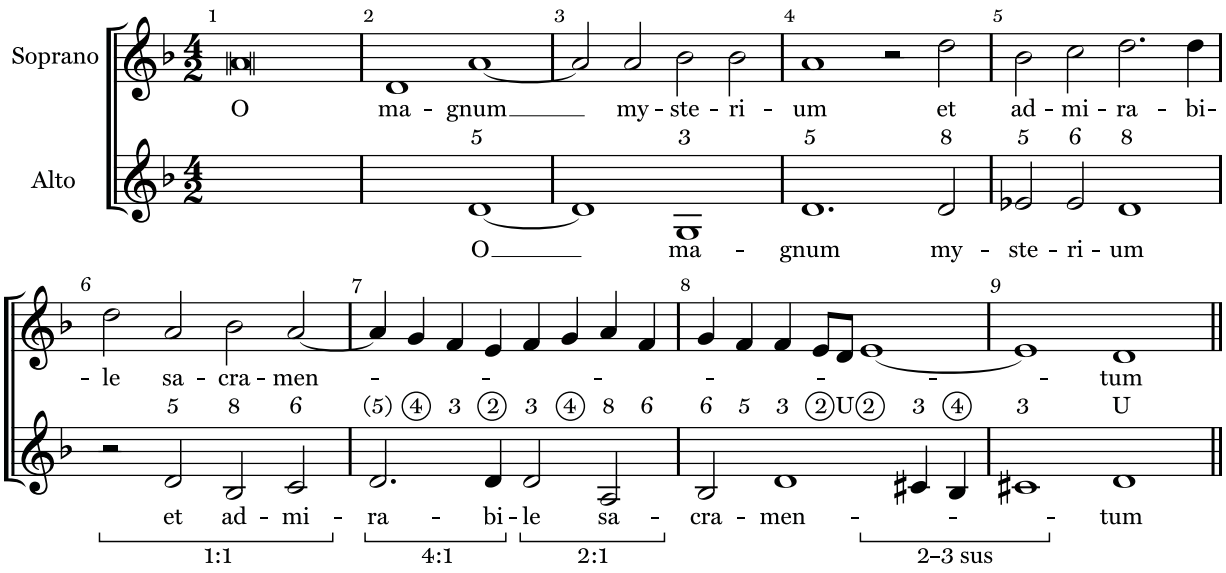
Eighth notes may appear only on the second or fourth quarter note and must be approached and left by step; they usually embellish a suspension, as here. There are four places in measures 2–5 where the voices cross or touch to make a unison (Fux's guidelines allow voice crossings and unisons, although modern counterpoint guidelines do not, as they cloud the distinction between parts); dropping the entire cantus (lower part) an octave into the bass clef would solve these issues, but moves the voices farther apart than Fux preferred.

In most tonal music, unlike counterpoint exercises, melodic and rhythmic embellishments are not isolated in one voice—the species are mixed together in all the parts, a technique sometimes called "free counterpoint." The term may be misleading, though. It does not mean you can do just anything with dissonances; instead, you are free to choose where, how, and with what note values you employ them.

To conclude this chapter, we turn to a beautiful piece of sixteenth-century music—"O magnum mysterium," by Tomás Luis de Victoria. Like other works from that era, this one begins

with the voices entering one at a time, each with the same melodic idea–a compositional technique called a **point of imitation**. Instead of a preexisting line or cantus firmus, these two parts are based on the same melodic idea, beginning with a distinctive P5 leap (Example 10.19). When the second part (alto) enters, making two-voice counterpoint, it has the same melodic intervals, rhythmic durations, and contour as the first part (soprano), transposed down a P5. A point of imitation may encompass only the first few notes of the melody or may include almost all of it, as here. Only as the text phrase nears the end in measures 8–9 does the imitation end. We will consider imitative counterpoint in more detail in Chapter 24.

EXAMPLE 10.19: Victoria, "O magnum mysterium," mm. 1–9 (soprano and alto parts)


Soprano
Alto
O ma - gnum my - ste - ri - um et ad - mi - ra - bi-
O ma - gnum my - ste - ri - um
- le sa - cra - men - - - - - - - tum
et ad - mi - ra - bi - le sa - cra - men - - - tum
1:1
4:1
2:1
2–3 sus

Translation: O great mystery and wondrous sacrament.

Now let's consider the counterpoint. Measures 2–6 are essentially note-to-note–some notes are repeated to accommodate the text, and durations vary; measure 7 shows 4:1 followed by 2:1, and measure 8 a 2–3 suspension, as marked on

the example. Following this passage, the tenor and bass voices enter with the same counterpoint in measures 8–11, in another point of imitation transposed down an octave from the soprano part. (The opening leap of a P5 down and back up makes this melody easy to hear each time it appears.) Both upper parts now introduce new counterpoint that combines with the tenor and bass to make a four-voice texture and full triads.

Compared with Example 10.18, this counterpoint is "freer": it freely mixes the different species and a variety of durations, and includes more P8 and P5 than normally appear in species settings. And when all four parts enter, we hear full chords and harmonic progressions, topics we turn to in the next two chapters.

Did You Know?

The most famous counterpoint treatise from the seventeenth and eighteenth centuries is Johann Joseph Fux's *Gradus ad Parnassum* (*Steps to Parnassus*). Although Fux's approach was modeled on sixteenth-century music, this treatise was a "best-seller" in its day, studied by countless eighteenth-century musicians. Fux taught counterpoint beginning with note-to-note and ending with fifth species, intended to approximate the use of dissonance in real music. His examples are notated with movable C-clefs, which sometimes correspond to both parts in the treble clef or both in the bass clef, whereas we have modeled soprano/bass pairings in a treble and bass clef. When musicians refer to species counterpoint today, Fux's method is what they are talking about. Portions of *Gradus ad Parnassum* are readily available in an English translation—*The Study of Counterpoint from Johann Joseph Fux's "Gradus ad Parnassum,"* trans. Alfred Mann (New York: Norton, 1943; reprinted 1965). Read this best-seller for yourself!

TERMS YOU SHOULD KNOW

cambiata
chains of suspensions
consonant skip
diminution
double neighbor
fifth species
fourth species
metric accent
neighbor tone
passing tone
preparation
resolution
second species (2:1)
suspension
third species (4:1)

QUESTIONS FOR REVIEW

1. Which dissonances are explored in 2:1 counterpoint?
2. What types of intervals may be used in 2:1 in the first half of the measure? in the second half?
3. How is a passing tone approached and resolved? a neighbor tone?
4. What types of embellishments are introduced in third species?
5. What types of suspensions are used in fourth species? Which appear in the upper part? in the lower part?

6. Name the three parts of a suspension.
7. Which suspensions can be used in chains? Which are not found in chains, and why aren't they?
8. What types of embellishments may be found in fifth species?

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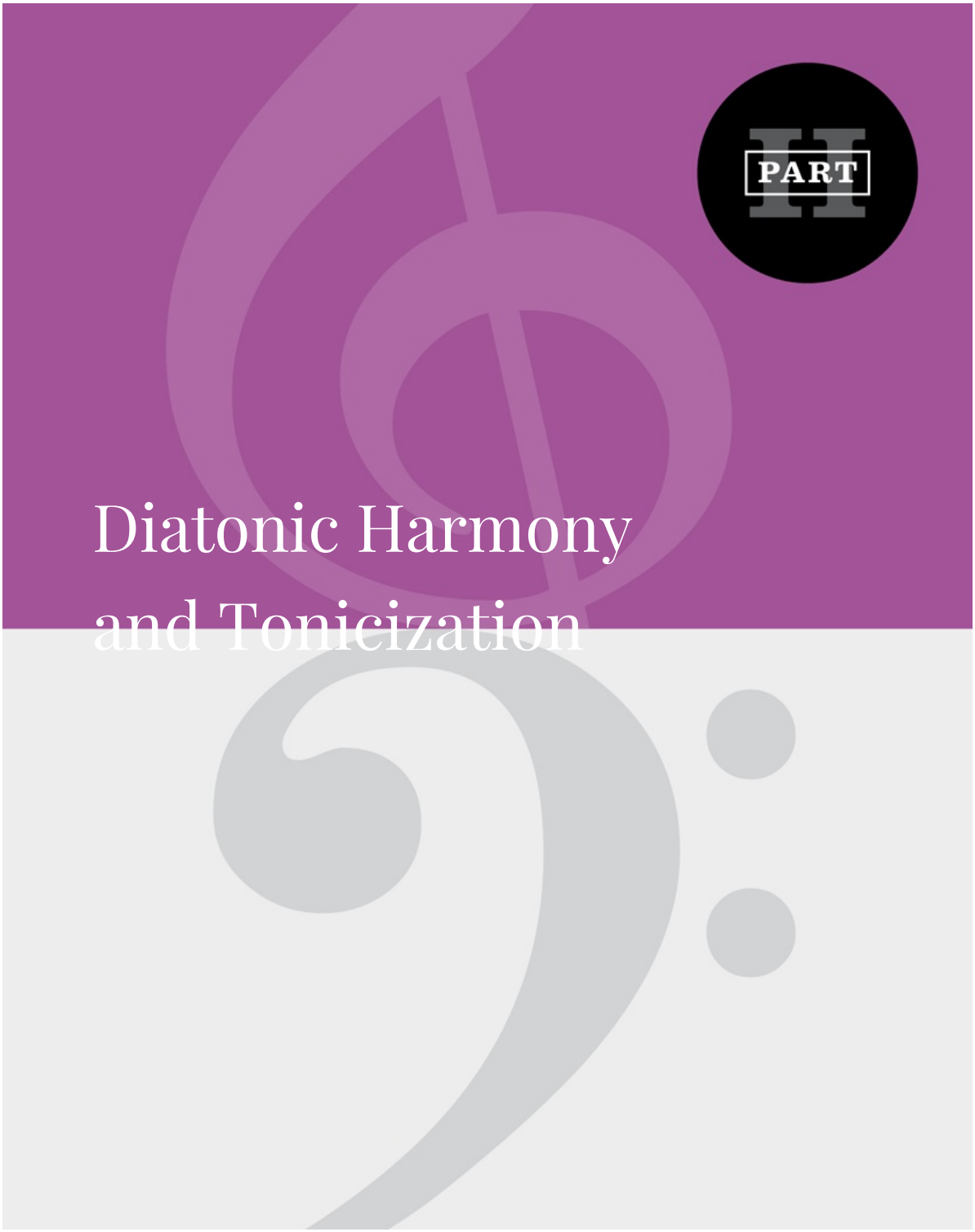


Diatonic Harmony and Tonicization

11 From Species to Chorale Style: Soprano and Bass Lines

Outline

Note-to-note counterpoint in chorale style

- Contrapuntal motion
- Chordal dissonance
- Characteristics of bass and melody lines
- Writing counterpoint with a given line

Melodic embellishment in chorale textures

- Passing tones, neighbor tones, and consonant skips
- Suspensions

Overview

In Baroque-era music and after, note-to-note counterpoint incorporates dissonances made from seventh chords and features a bass line that implies tonal harmonic progressions. Here, we learn to write tonal cadences and melodic embellishments in two-part chorale textures.

Repertoire

Johann Sebastian Bach, "Wachet auf" ("Awake," Chorale No. 197)

Traditional hymn settings

- "Chartres" (fifteenth-century French melody, harmonization by Charles Wood)
- "Ein feste Burg" ("A Mighty Fortress," melody by Martin Luther, 1529; harmonization by J. S. Bach)
- "My Country, 'Tis of Thee" ("America") (*Thesaurus Musicus*, 1740)
- "Old Hundredth" (harmonization by Louis Bourgeois, 1551)
- "Rosa Mystica" (traditional melody, harmonization by Michael Praetorius, 1609)
- "St. George's Windsor" (harmonization by George J. Elvey, 1858)

Note-to-Note Counterpoint in Chorale Style

Although the principles of species counterpoint underlie much of tonal music, very few pieces are written exclusively in strict style. Instead, in the Baroque and subsequent eras, the intervallic connections of species counterpoint were combined with an emerging sense of harmony and functional tonality to create tonal counterpoint.

Hymns or patriotic songs are a good place to start. While hymns are often set for four parts, pairs of voices—such as the soprano and the bass—form two-part note-to-note counterpoint: the soprano normally carries the traditional melody (which may have been written as early as the fifteenth century), and the bass line supplies the tonal foundation of the harmonic progression. In these settings, the familiar melody serves as a "cantus firmus," as it cannot be changed. Though we focus on two-voice pairs in this chapter, listen to each hymn while following the anthology score to become familiar with the four-part settings.

Eighteenth-century note-to-note counterpoint differs from strict-species style in several ways. In first-species exercises:

- The species is immediately recognizable by its whole-note durations in both parts, harking back to Renaissance settings.
- Because first species features only consonant intervals, there is usually no strong forward momentum; only at the close is there a sense of arrival.
- The voices are equal: the cantus can be the top or bottom part, and often the counterpoint is invertible (the same counterpoint works either above or below the cantus).

In contrast, in eighteenth-century style:

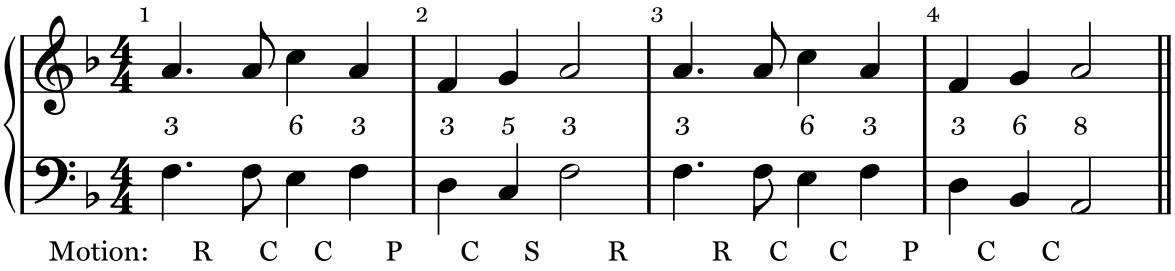
- The durations are normally half and quarter notes, or quarter and eighth notes.
- Pitches may be immediately repeated, adding more oblique motion, though pitch repetitions are more common within a measure than across a bar line.
- Composers include both consonant and dissonant harmonic intervals drawn from seventh chords to create forward motion.
- The voices are not equal: the lowest part—the bass line—takes on a special role as the foundation of the harmonic progressions, with the melody in the soprano; these roles are usually not invertible.

In hymn settings, don't be surprised by an occasional deviation from the species guidelines, particularly with regard to dissonance. Nevertheless, the basic principles of counterpoint, including the balance between linear and harmonic motion, are the same in both styles.

Contrapuntal Motion

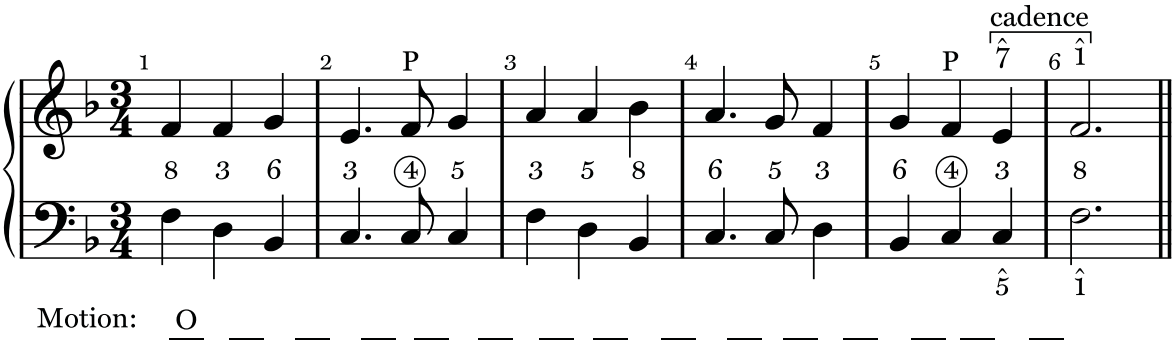
In Example 11.1, note-to-note counterpoint from "St. George's Windsor," each bass note corresponds to a single soprano note in the same rhythm—making a **homorhythmic** texture, meaning "same rhythm" in all parts. As in first-species counterpoint, the intervals are a mix of perfect and imperfect consonances, the voices employ mostly contrary motion (C), and the last two intervals are 6 and 8. Unlike in strict style, however, notes are repeated in measures 1 and 3 (marked R) and across the bar line in measures 2–3, resulting from repeated notes in the existing hymn melody.

EXAMPLE 11.1: "St. George's Windsor," mm. 1–4 (soprano/bass)



Hymns feature oblique motion more often than strict style does, to accommodate repeated notes in the melody or bass, as in Example 11.2. This example also shows a strong tonal cadence typical of eighteenth-century style: scale degrees ŝ5–î in the bass and ŝ7–î in the soprano.

EXAMPLE 11.2: "My Country, 'Tis of Thee," mm. 1–6 (soprano/bass)



Try it #1

In the blanks below Example 11.2, label the motion between each pair of harmonic intervals as C (contrary), O (oblique), P (parallel), S (similar), or R (repetition).

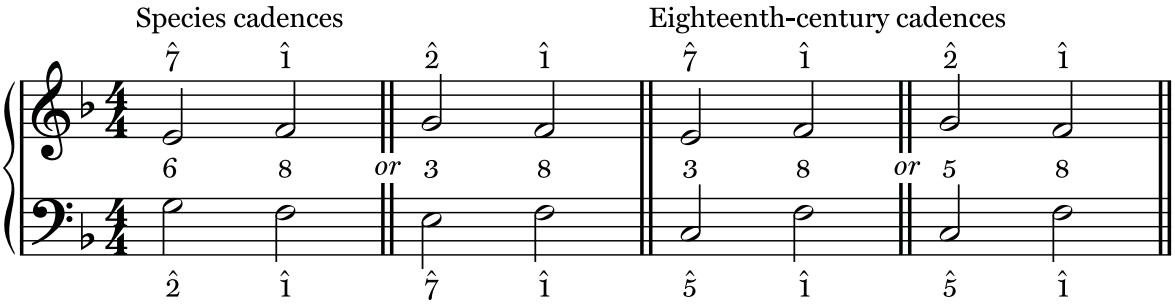
Show answers

KEY CONCEPT In tonal music, a unit of musical

thought that ends with a point of closure or repose is called a **phrase**. The combination of melodic, harmonic, and rhythmic elements that create a sense of closure at the end of a phrase is called a **cadence**.

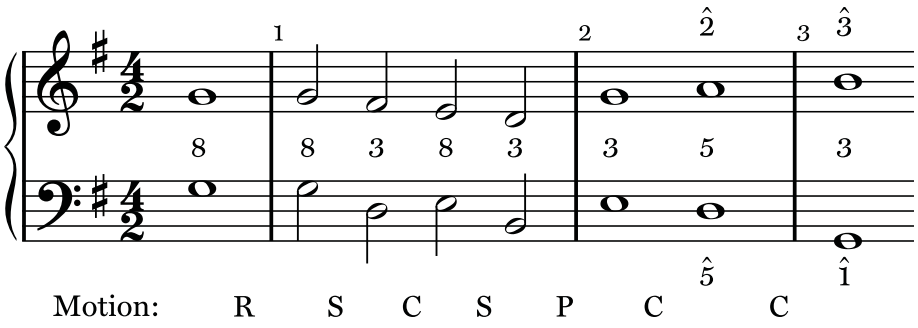
The bass ♭5̂–1̂ implies harmonic motion from root-position V to I. When combined with either of the usual upper-voice closing gestures from strict species, 2̂–1̂ or 7̂–1̂, this motion represents the strongest type of tonal cadence (Example 11.3).

EXAMPLE 11.3: Cadences from species counterpoint and eighteenth-century style



A slightly different type of cadence is seen in the first phrase of "Old Hundredth" (Example 11.4). Again there is strong ♭5̂–1̂ bass motion—implying root position V–I in G major—but 2̂–3̂ in the soprano (we will return to such cadence types later in the chapter).

EXAMPLE 11.4: "Old Hundredth," mm. 1–3



SUMMARY

Note-to-note counterpoint in eighteenth-century style generally follows the conventions of species counterpoint in regard to contrapuntal motion and the connection of consonant intervals. Differences include

- more oblique motion, to accommodate repeated notes in a chorale melody;
- new cadence intervals;
- a bass that implies stronger harmonic motion.

Chordal Dissonance

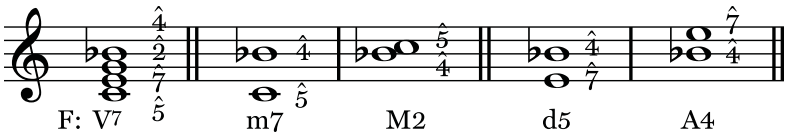
In strict counterpoint, dissonant harmonic intervals are created by melodic embellishments in second and third species and by rhythmic displacement in fourth species. Now we meet an additional type of dissonant interval that is essential to eighteenth-century style: **chordal dissonance**, arising from seventh chords.

KEY CONCEPT Although consonant harmonic intervals in eighteenth-century style may move either to another consonance or to a dissonance, dissonant harmonic intervals are treated more carefully. They are traditionally approached by step in one or both voices, and must resolve to a consonant interval.

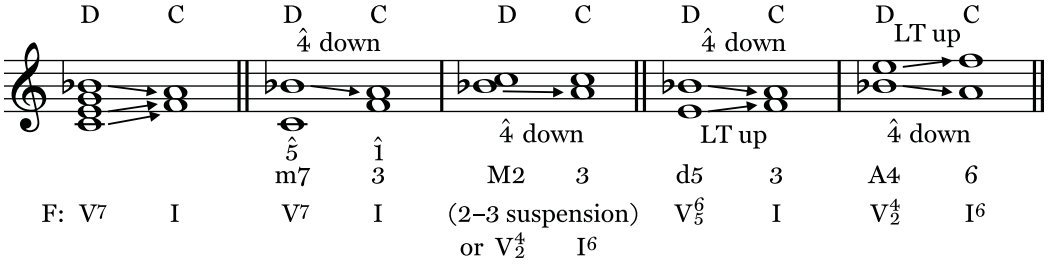
Example 11.5 shows the most significant source of chordal dissonances: the dominant seventh chord. The root and seventh of this chord form a m7 and its inversion (M2), while the third and seventh form a d5 and its inversion (A4).

EXAMPLE 11.5: Dissonant intervals of the V^7 chord

(a) Harmonic dissonances



(b) Resolutions (D = dissonant; C = consonant)



As shown in part (b), the root and seventh normally resolve in to a third to imply dominant-tonic motion. Its inversion, the M2, also resolves to a third, though we don't usually see this in two-voice counterpoint except as a 2–3 bass suspension. When the dissonant tritone between the third and seventh of the chord is spelled as a d5, it resolves in to a third; when spelled as an A4, it resolves out to a sixth. These are the same resolutions employed in third-species counterpoint; in tonal harmonic contexts, they allow $\hat{7}$ to move properly up to $\hat{1}$, and $\hat{4}$ (the

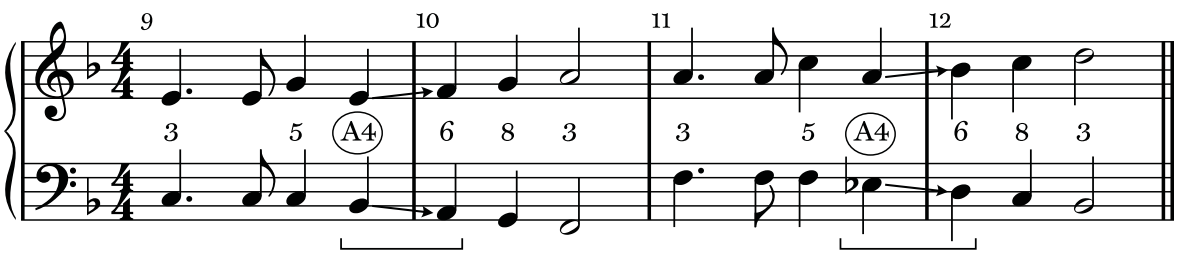
chordal seventh) to resolve down. As was also the case in third species, this resolution often occurs over a bar line, from a relatively weak metrical position to a strong one.

KEY CONCEPT In the dominant seventh harmony, the chordal seventh (4̂) and the leading tone (7̂) are **tendency tones**. Always resolve the chordal seventh down (4̂ to 3̂) and the leading tone up (7̂ to 1̂).

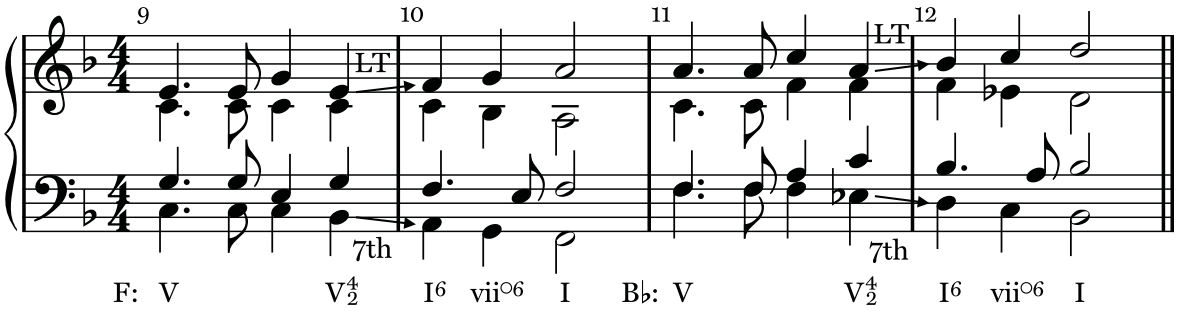
You can see the dominant seventh intervals in context in Example 11.6. Part (b) gives the full harmonic setting, with the two A4 intervals (from mm. 9 and 11) resolving outward to a sixth: the seventh of the chord moves down, and the third (the leading tone of the key, LT) moves up. When the seventh is in the bass, as here, the chord is a $\frac{4}{2}$ inversion, and the implied harmonies are V^4_2 to I^6. The outer-voice A4 and d5 usually fall in the middle of a phrase instead of at the end, where an implied root-position V^7–I provides a stronger cadence (not shown here). Part (c) summarizes the voice-leading for these chords.

EXAMPLE 11.6: "St. George's Windsor," mm. 9–12 (soprano and bass)

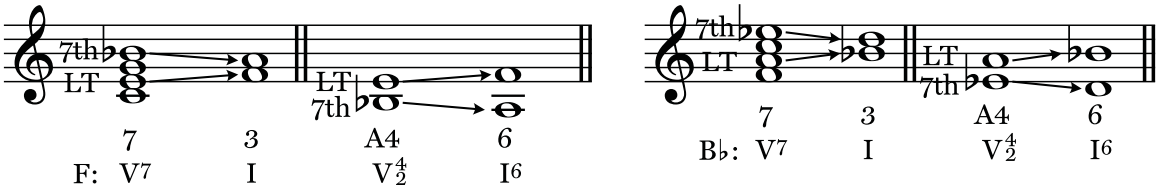
(a) Soprano-bass pair



(b) Full SATB context



(c) Interval resolutions



KEY CONCEPT The dissonant harmonic intervals of a dominant seventh chord are resolved as follows:

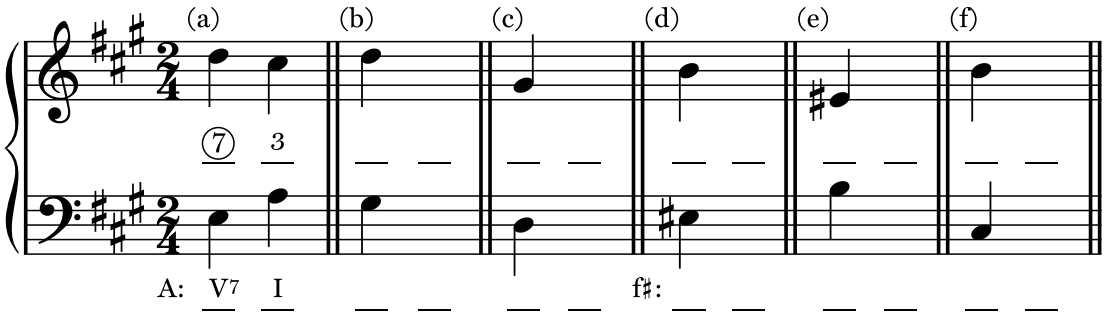
DISSONANT INTERVAL	MOVES ...	CHORDS IMPLIED
m7	In to a third with a leap from $\hat{5}$ to $\hat{1}$ in the bass.	V^7 to I
d5	In by contrary motion to a third, with $\hat{7}$ resolving up to $\hat{1}$ in the bass.	V^6_5 to I
A4	Out by contrary motion to a sixth, with the chordal seventh resolving down a third in the bass ($\hat{4}$ to $\hat{3}$).	V^4_2 to I^6

Try it #2

Identify and resolve the following chordal dissonances. Label each interval and circle the dissonant one, then

write the implied harmonies (tonic or dominant) under the staff, providing both the Roman numeral and inversion.

Show answers



Characteristics of Bass and Melody Lines

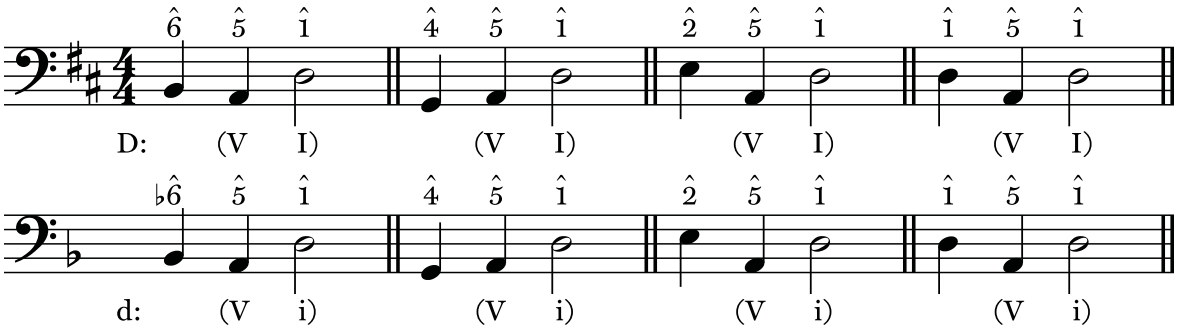
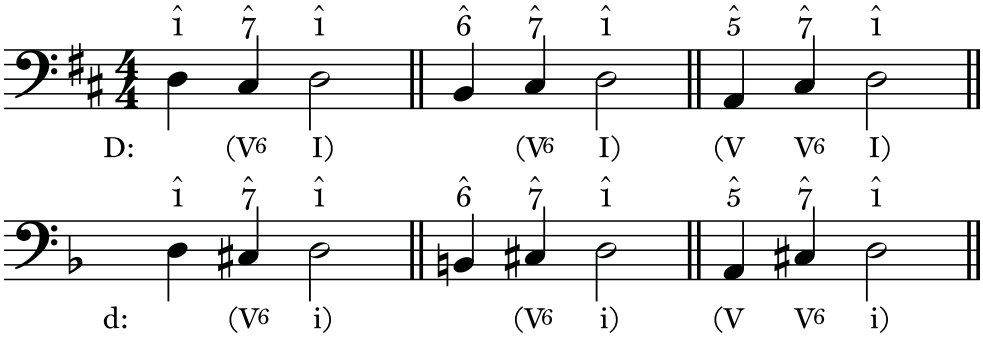
In eighteenth-century style, the melody and bass lines should make good two-voice counterpoint, but each line also conveys a tonal function, especially at the beginning and end of a phrase.

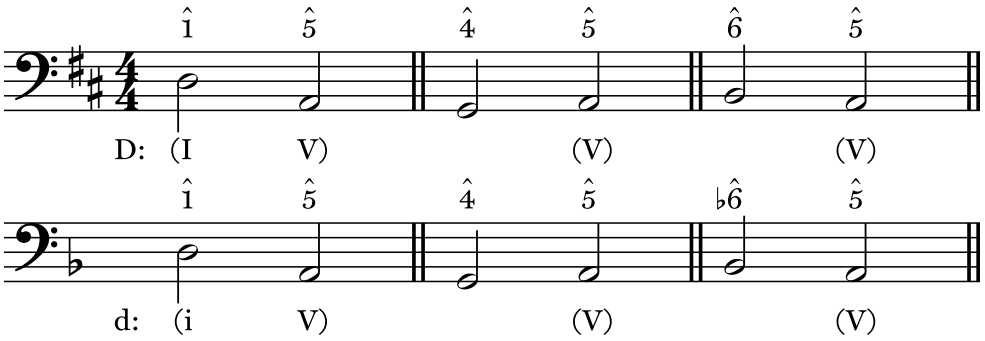
KEY CONCEPT Scale degrees chosen for the melody and bass line imply particular harmonies: V or V7 (5̂, 7̂, 2̂, and 4̂) and I (1̂ and 3̂).

Ending the Counterpoint Typical bass lines implying tonic (I or i) and dominant (V or V7) harmonies are given in Example 11.7 in D major and D minor. These are not all equally conclusive or strong, and some connections make better phrase endings than others. The bass lines in part (a) can all be used as a final cadence; those in part (b) are more often found within a phrase, but in some styles of music may appear at the end as well, making a less conclusive cadence. The patterns in part (c) are

used to end a phrase on an implied V chord, making an inconclusive cadence. Example 11.8 shows bass lines for conclusive cadences in three hymns.

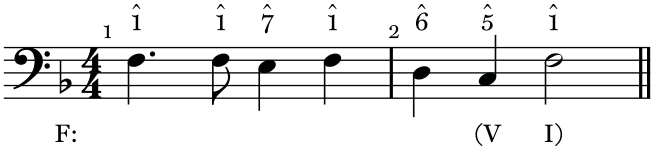
EXAMPLE 11.7: Bass lines implying V(7) and I or i in D major and D minor

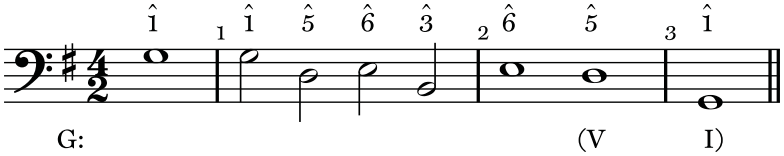
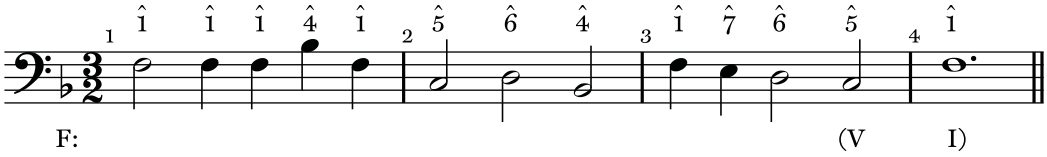
(a) Conclusive

(b) Less conclusive

(c) Inconclusive: Ending on the dominant



EXAMPLE 11.8: Hymn bass lines

(a) "St. George's Windsor," mm. 1–2



(b) "Old Hundredth," mm. 1–3

(c) "Rosa Mystica," mm. 1–4

Remember that in minor keys, the dominant harmony (V or V^7) includes the leading tone; when the bass line moves from $\hat{7}$ to $\hat{1}$,

write the correct accidental for the leading tone. If the bass line ascends by step from $\hat{5}$ up to $\hat{1}$, use the ascending melodic minor ($\hat{6}$ and $\hat{7}$); if it descends from $\hat{1}$ down to $\hat{5}$, use the descending form of melodic minor ($\flat\hat{7}$ and $\flat\hat{6}$).

SUMMARY

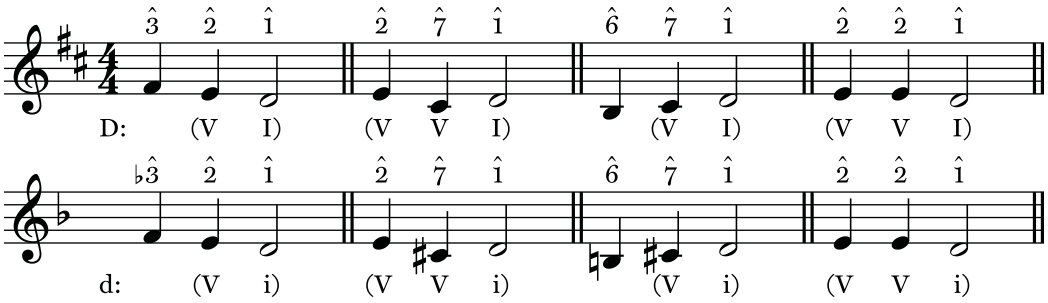
Typical closing scale-degree patterns for bass lines:

- Conclusive: $\hat{5}$–$\hat{1}$, usually approached by $\hat{1}$, $\hat{2}$, $\hat{4}$, $\hat{6}$, or $\flat\hat{6}$ in minor (Example 11.7a)
- Less conclusive, used mid-phrase or as a close in some styles: $\hat{7}$–$\hat{1}$, usually approached by $\hat{1}$, $\hat{6}$, or $\hat{5}$ (part b)
- Inconclusive, ending with $\hat{5}$: usually approached by $\hat{1}$, $\hat{4}$, $\hat{6}$, or $\flat\hat{6}$ in minor (part c)

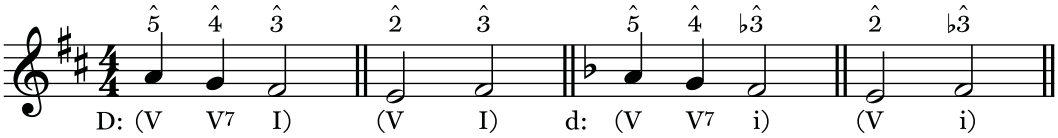
The soprano line is normally more conjunct than the bass, but it, too, contributes to the cadence at the end of a phrase. While the strongest cadences are made from $\hat{2}$–$\hat{1}$ or $\hat{7}$–$\hat{1}$ in the melody and $\hat{5}$–$\hat{1}$ in the bass, melodies also may close on $\hat{3}$ (or $\flat\hat{3}$) for a less conclusive ending on the tonic, or on $\hat{5}$, $\hat{2}$, or $\hat{7}$ for inconclusive endings on the dominant harmony, as in Example 11.9.

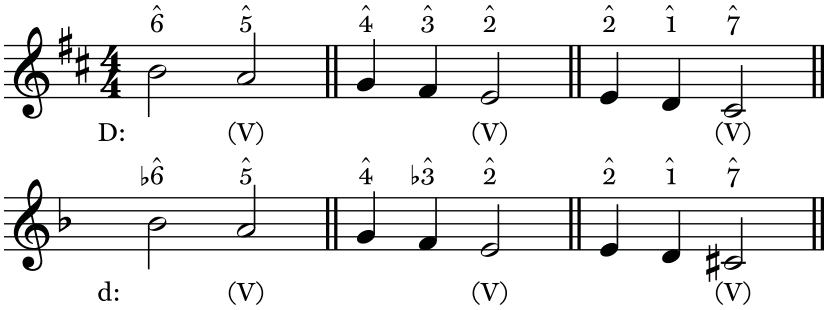
EXAMPLE 11.9: Melodic cadential patterns in D major and D minor

(a) Conclusive



(b) Less conclusive



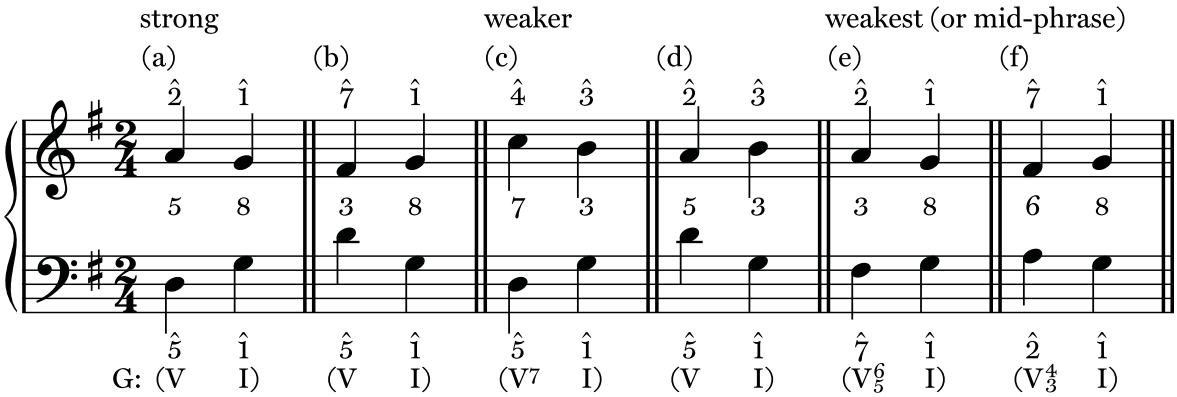
(c) Inconclusive: Ending on V

SUMMARY

Typical closing scale-degree patterns for soprano lines in major keys (substitute $\hat{\flat 3}$ in minor):

- Conclusive, ending on $\hat{1}$: $\hat{3}$–$\hat{2}$–$\hat{1}$, $\hat{2}$–$\hat{7}$–$\hat{1}$, $\hat{6}$–$\hat{7}$–$\hat{1}$, $\hat{2}$–$\hat{2}$–$\hat{1}$ (Example 11.9a).
- Less conclusive, ending on $\hat{3}$: $\hat{5}$–$\hat{4}$–$\hat{3}$, $\hat{2}$–$\hat{3}$ (part b).
- Inconclusive, ending on $\hat{5}$, $\hat{2}$, or $\hat{7}$: $\hat{6}$–$\hat{5}$ ($\hat{\flat 6}$–$\hat{5}$ in minor), $\hat{4}$–$\hat{3}$–$\hat{2}$, $\hat{2}$–$\hat{1}$–$\hat{7}$ (part c).

Example 11.10 summarizes common root-position cadential patterns in two voices: part (a) shows the strongest cadence, $\hat{2}$–$\hat{1}$ in the soprano against $\hat{5}$–$\hat{1}$ in the bass, while part (b) substitutes $\hat{7}$–$\hat{1}$ in the melody. Parts (c) and (d) illustrate two weaker endings, $\hat{5}$ to $\hat{1}$ in the bass accompanied by $\hat{4}$–$\hat{3}$ or $\hat{2}$–$\hat{3}$ in the melody. Parts (e) and (f) show familiar cadences from strict species, also used in tonal music within a phrase and at weak cadences in some styles. All these cadences are common in minor keys as well; in (b), (e), and (f), F would be raised to F♯ to make the leading tone.

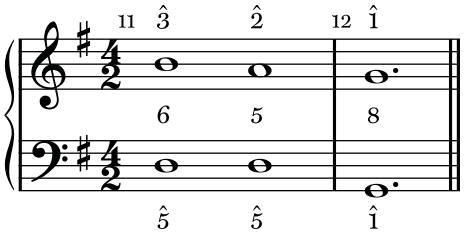
EXAMPLE 11.10: Cadences in two voices

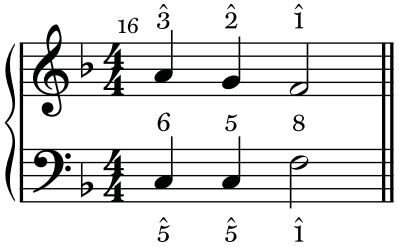


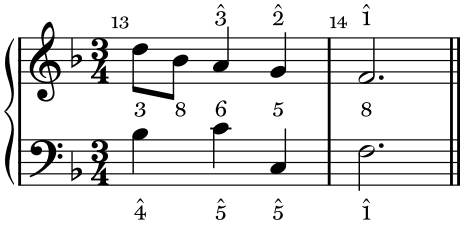
Look now at the final hymn cadences in Example 11.11 to see how their soprano-bass pairs imply V(7) and I. In each, the melodic notes are $\hat{3}$–$\hat{2}$–$\hat{1}$, accompanied by $\hat{5}$–$\hat{5}$–$\hat{1}$ in the bass, making the harmonic intervals 6–5–8.

EXAMPLE 11.11: Final cadences (soprano and bass)

(a) "Old Hundredth," mm. 11–12



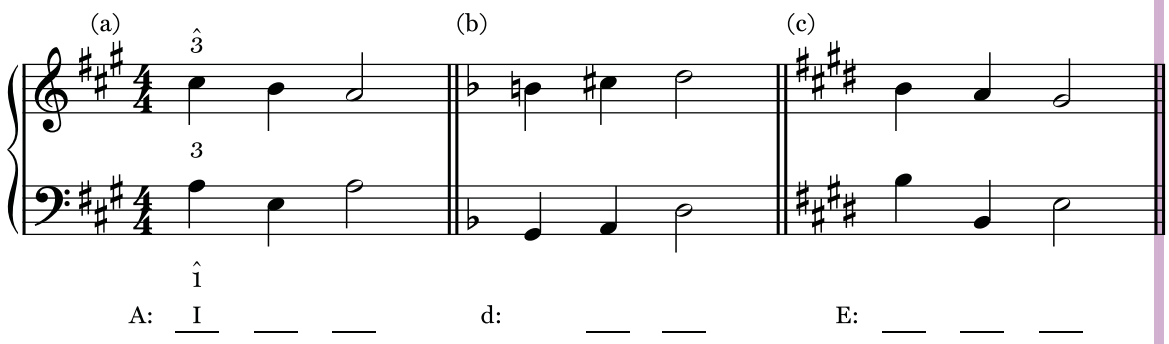
(b) “St. George’s Windsor,” m. 16

(c) “My Country,” mm. 13–14



Try it #3

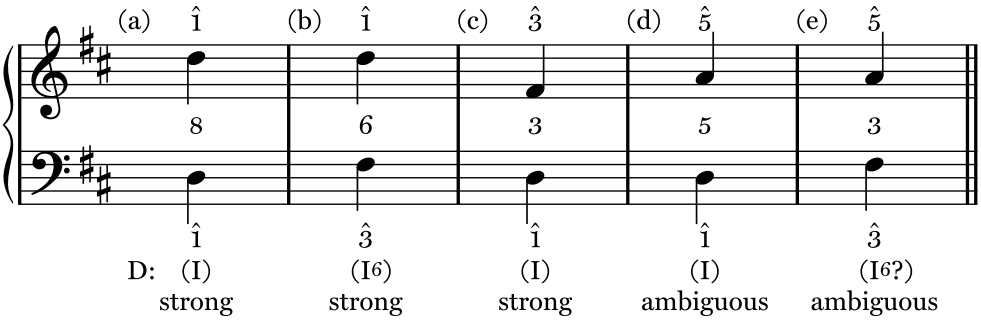
In the examples below, label (1) scale-degree numbers for each note (above the melody and below the bass); (2) harmonic intervals between the parts; and (3) Roman numerals and figures for the implied chords, in the blanks underneath.

Show answers



Opening the Counterpoint Melodic openings are more varied than cadences. A tonal melody often begins on $\hat{1}$ or $\hat{3}$, implying a tonic harmony, as in Example 11.12a–c. Less common are soprano-bass pairings of $\hat{5}$ and $\hat{1}$, or $\hat{5}$ and $\hat{3}$, because the harmony is ambiguous: the implied triad could be major or minor (part d); or the notes could be the third and fifth of a major chord (D major), or the root and third of a minor chord (F ♯ minor, part e).

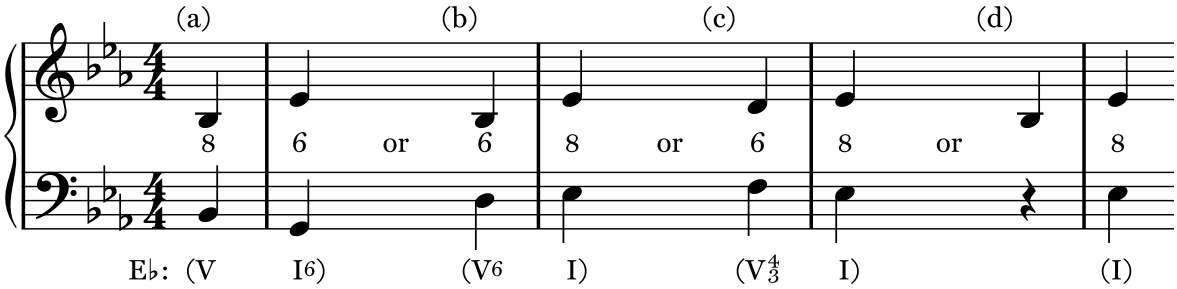
EXAMPLE 11.12: Opening intervals implying tonic harmony



In pieces that begin with an anacrusis, the anacrusis usually implies the dominant, while the first downbeat interval establishes the tonic harmony. Some common settings are shown in Example 11.13. These parts could be exchanged: for

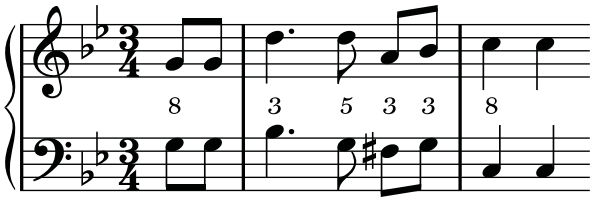
example, the B♭–E♭ ($\hat{5}$–$\hat{1}$) of part (a) could be in the bass, with B♭–G ($\hat{5}$–$\hat{3}$) in the soprano.

EXAMPLE 11.13: Opening intervals with an anacrusis

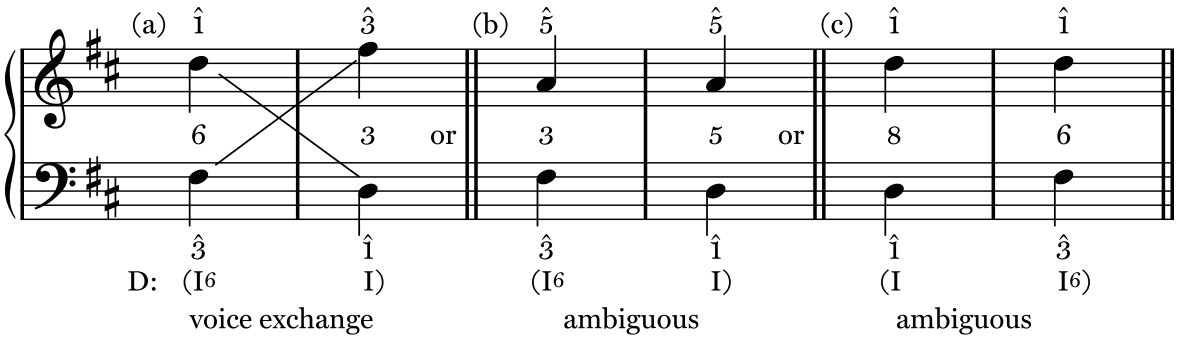


Sometimes a phrase will open with a tonic chord on both the anacrusis and downbeat; at the opening of "Chartres" (Example 11.14), the melody notes of the anacrusis and the first two beats of measure 1 all imply the tonic (G minor) triad, the temporary first-inversion tonic providing interest across the bar line. Example 11.15a shows a particularly elegant case, with the F♯–D in the bass mirrored by D–F♯ in the soprano (a voice exchange of scale degrees $\hat{3}$ and $\hat{1}$), implying I6–I. In parts (b) and (c), the anacrusis is ambiguous, with the third and fifth of the tonic triad in (b) and only the root in (c); but the arrival of the second interval clarifies that each anacrusis implies the tonic chord.

EXAMPLE 11.14: "Chartres," mm. 1–2 (soprano and bass) with tonic anacrusis



EXAMPLE 11.15: Opening pairs of intervals with a tonic anacrusis



Writing Counterpoint with a Given Line

Composers in the eighteenth century often wrote counterpoint for a preexisting soprano or bass line, making new settings of hymn or chorale melodies or reusing a standard bass line as the starting point for creating a new melody. Follow this general procedure to write your own settings with a given melody or bass line.

1. Start by identifying the key and mode, then write the scale degree over each note. Sing or play the given line.
2. Look at the beginning and end of the given line to determine where it implies a I or V(7) chord. Then choose scale degrees for the contrapuntal line that match the implied harmonies at the beginning and make an appropriate cadence at the end. Fill in the first few and last few notes, and write in the intervals and implied Roman numerals.
3. Examine the shape of the middle portion of the given part. Where there are several steps in a row, plan to include a skip or leap in your line; where there are skips or leaps, write steps in your line.
4. Think about the contour of the given line, and how you want the contour of your melody to balance it. Choose a possible

high point, with an interval that is consonant with the given line's note. Sketch out a general shape for your line.

5. Begin filling in the middle, considering both the harmonic intervals between the two parts and the shape of your line. Label the intervals, and check every perfect interval for parallels and for the type of approach (e.g., contrary or oblique motion, or similar motion with stepwise soprano). For now, you do not need to be concerned about the harmonic implications of the middle other than those implying tonic or dominant harmonies. Revise as necessary to make good contrapuntal and melodic sense.

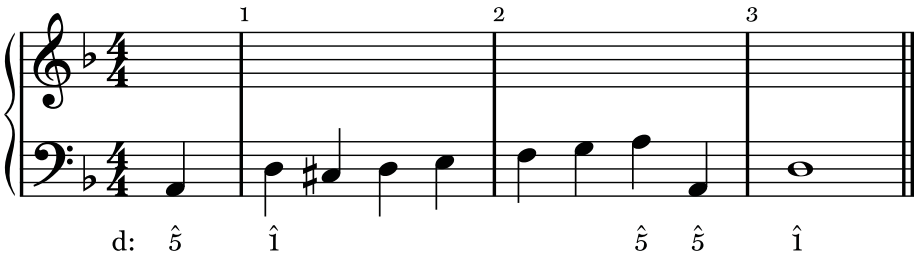
KEY CONCEPT Always check the counterpoint you have written, to make sure it

- opens with either an implied tonic harmony or a V–I anacrusis;
- closes with one of the standard types of cadences;
- forms consonant harmonic intervals or chordal dissonances (from V^7) with the given line;
- resolves tendency tones (from V^7) correctly;
- includes both perfect and imperfect consonances, with more of the latter;
- avoids parallel octaves and fifths (by approaching perfect consonances with contrary motion, similar motion with a stepwise upper line, or oblique motion);
- shows a pleasing overall contour that coordinates well with the shape of the given line.

Examine the opening and closing patterns in Example 11.16, and consider how you would write a well-balanced melody, following the guidelines above. The bass line begins with an

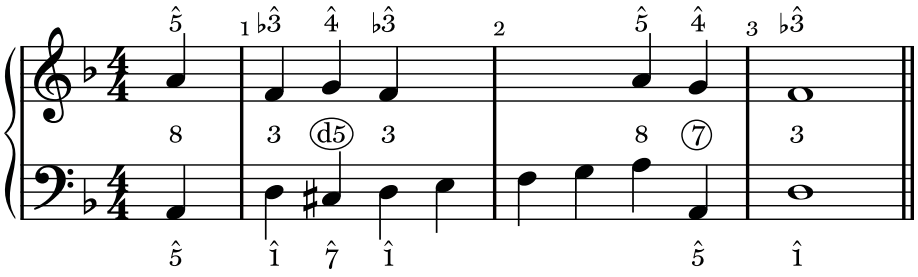
anacrusis ($\hat{5}$–$\hat{1}$ in D minor) and ends with $\hat{5}$–$\hat{5}$–$\hat{1}$.

EXAMPLE 11.16: A typical bass line in eighteenth-century style



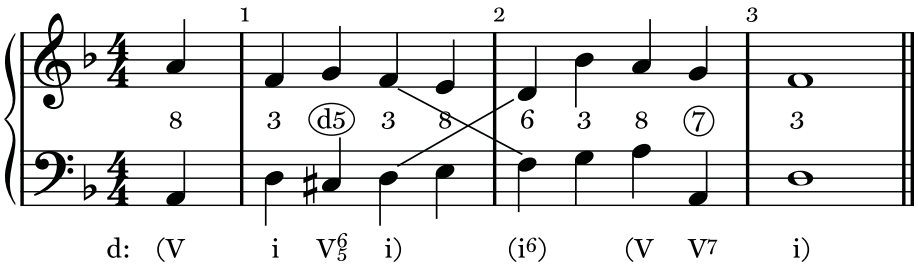
Example 11.17 shows one possible setting: a $\hat{5}$–$\flat\hat{3}$ opening and $\hat{5}$–$\hat{4}$–$\flat\hat{3}$ conclusion. In measure 1, the bass line's $\hat{1}$–$\hat{7}$–$\hat{1}$ is set in contrary motion with $\flat\hat{3}$–$\hat{4}$–$\flat\hat{3}$ to imply a i–V^6_5–i progression; and the dissonant d5 resolves correctly to a third.

EXAMPLE 11.17: Opening and closing counterpoint



Starting on beat 3 of measure 1, the bass's D3–E3–F3 could be set with a voice exchange F4–E4–D4 in the soprano to make the pattern 3–8–6 (Example 11.18)—a strong contrapuntal gesture because it employs both imperfect and perfect consonances, and approaches and leaves the P8 stepwise in contrary motion.

EXAMPLE 11.18: A possible note-to-note setting

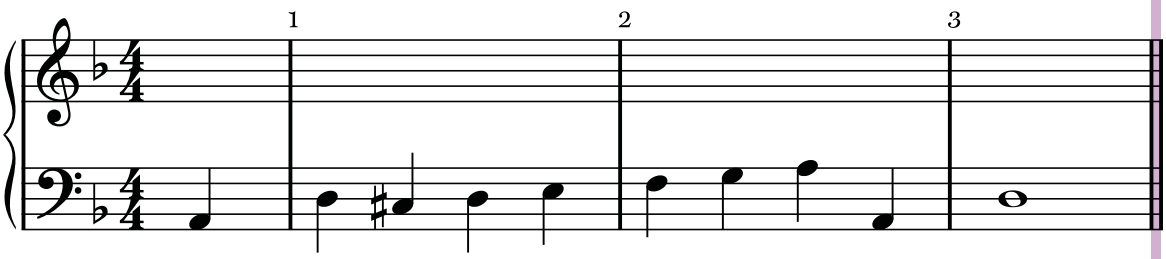


We have set the bass-line step F3–G3 in measure 2 with an upward leap, D4 to B♭4, adding interest to the melody and providing a distinctive high point. The leap is both approached and left by steps in the opposite direction. Overall, then, the contour of the soprano melody provides contrary motion, and a good balance, with the bass.

Try it #4

Example 11.18 is only one possible setting for this bass line; try another option using the hints below. Refer to the guidelines above, and be sure to sing or play through your counterpoint when complete.

Show answers



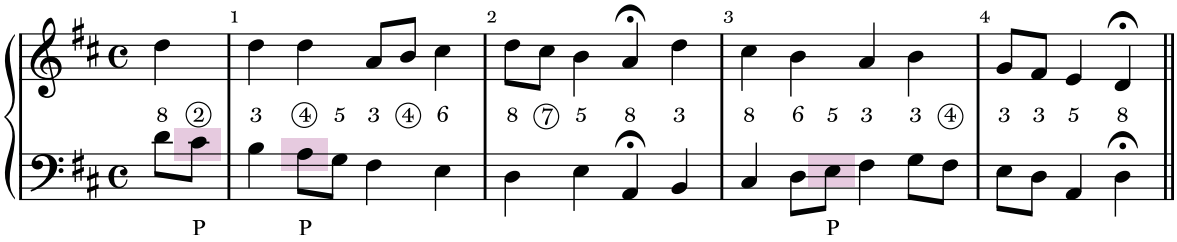
Hints: The cadence may be set with intervals 3–3–8, 3–5–8, or 5–3–8 (don't forget to use the leading tone C♯). Explore various opening intervals: 3–8 (again, with C♯), 5–3, or 8–5. The bass's C♯3–D3–E3 in measure 1 may be set with a voice exchange, E4–D4–C♯4 (resolving to D in m. 2), as can the F3–G3–A3 in measure 2.

Melodic Embellishment in Chorale Textures

Passing Tones, Neighbor Tones, and Consonant Skips

Melodic embellishments, particularly unaccented passing and neighbor tones and consonant skips, are prevalent in eighteenth-century two-voice counterpoint. But unlike species style, these embellishments may appear in different voices on different beats, creating rhythmic variety between the two lines. For an example, listen to the first phrase of "Ein feste Burg" (Example 11.19); pay close attention to any passing tones.

EXAMPLE 11.19: Bach, "Ein feste Burg," mm. 1–4 (soprano and bass)



KEY CONCEPT Three types of passing tones are permitted in eighteenth-century style: the dissonant passing tone in either an unaccented or accented position, and the unaccented consonant passing tone. (It is possible to have two dissonant passing tones in a row, one unaccented and one accented.) The dissonant unaccented passing tone is by far the most common.

The passing tones labeled in Example 11.19 are dissonant unaccented (anacrusis), dissonant accented (m. 1), and consonant (m. 3). In the places where both voices move together rhythmically, on beats with no embellishments, the guidelines of 1:1 counterpoint apply. If we eliminate the second note of each pair of eighth notes, for example, and adjust for accented passing tones (leave out the bass's accented passing tone A3 in m. 1 and keep the G3), the principles of good counterpoint are followed from beat to beat.

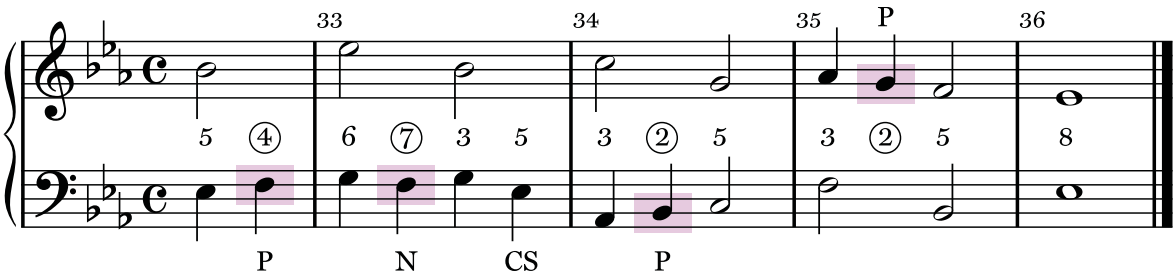
Try it #5

In Example 11.19, the intervals between the voices are labeled (dissonant intervals are circled), along with three passing tones. Which of the remaining offbeat eighth notes also make dissonant passing tones? Circle and label them.

Show answers

Both consonant and dissonant neighbor tones are also typical embellishments in this style, as are consonant skips. Listen to the soprano and bass lines of Bach's "Wachet auf," given in Example 11.20.

EXAMPLE 11.20: Bach, "Wachet auf," mm. 32–36 (soprano and bass)

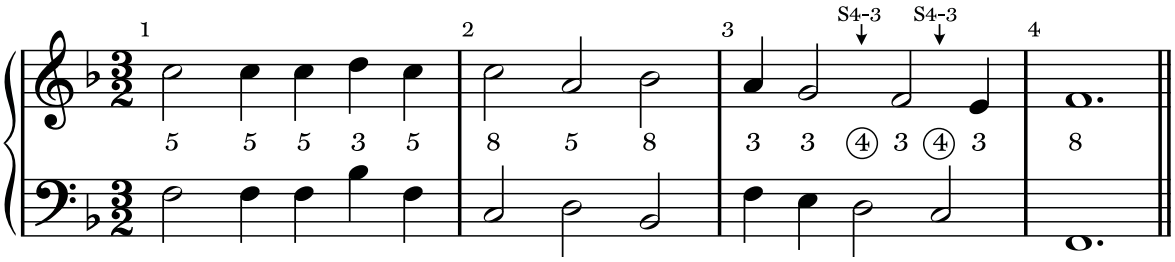


In measure 33, the bass-line F3 on beat 2 is a dissonant neighbor tone. As in species style, it appears in an unaccented position and moves away from and returns to a consonance by step: 6–7–3. Where melody and bass lines imply harmonic progressions, a consonant skip like that on beat 4 may also be referred to as a **chordal skip** if it spans members of the same implied harmony (here, E♭ major).

Suspensions

Unlike fourth species, suspensions in eighteenth-century counterpoint are mixed with other types of embellishments or reserved to highlight a cadence. The available dissonant suspensions are the same as in strict style: 4–3, 7–6, and 9–8 in the upper part and 2–3 (or 9–10) in the lower. For an example, listen to the first part of "Rosa Mystica" (soprano and bass lines are shown in Example 11.21), and focus on the intervals approaching the cadence in measures 3–4.

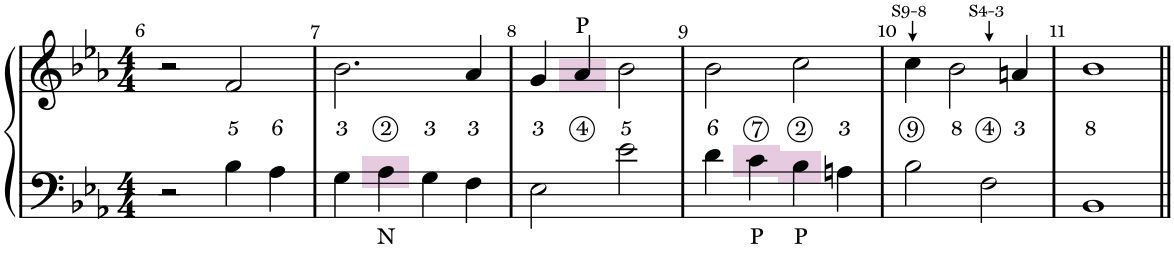
EXAMPLE 11.21: "Rosa Mystica," mm. 1–4 (soprano and bass)



In eighteenth-century style, suspensions may be connected to their consonant preparation by a tie, or by a longer duration. In measure 3, for example, the half notes G4 and F4 replace tied quarter notes for the preparation and suspension components of this 4–3 chain. Since this example is primarily note-to-note, the rhythmic interest and dissonance provided by the suspensions prove even more striking.

While we have focused primarily on soprano and bass voices in this chapter, the principles of good counterpoint also apply between the bass and each of the upper parts. In Example 11.22, for instance, the alto and bass parts from "Wachet auf," the texture is primarily 2:1, with dissonant passing tones in measures 8 and 9 (including two in a row), and a neighbor tone in measure 7. Here, the cadence is approached through a suspension chain in measure 10; when the suspended note is not tied to its preparation (the C5 in mm. 9–10), the dissonance figure is called a **rearticulated suspension**.

EXAMPLE 11.22: Bach, "Wachet auf," mm. 6–11 (alto and bass)



As in Examples 11.21 and 11.22, suspensions must arrive *on* the beat. They normally resolve on the following beat, but may also resolve on the unaccented part of the same beat. In performance, musicians tend to *crescendo* slightly into the accented dissonance and pull away from the resolution; try this (subtly!) for a more expressive performance.

KEY CONCEPT Suspensions in eighteenth-century style, like those in strict style, consist of three parts:

(1) a consonance (the preparation), which is held over to the next beat to make

(2) an accented dissonance (the suspension), which then resolves down by step to

(3) a consonance (the resolution).

The preparation may be connected to the suspension by a tie as in strict style; the preparation and suspension may be a single note of longer duration if they are in the same measure; or the tie may be missing altogether for a rearticulated suspension. Although the suspension must fall on an accented note (on the beat), the preparation and resolution may fall on the beat or offbeat.

Recognizing and labeling harmonic patterns in phrase openings and cadences, as we have done in this chapter, is the first step in learning music analysis. Be sure to identify melodic embellishments—passing tones, neighbor tones, consonant skips—and suspensions as well: they will help you understand other elements of the counterpoint.

SUMMARY

When writing eighteenth-century 2:1 counterpoint:

1. Continue to follow the guidelines for 1:1 counterpoint with respect to types of motion (contrary, similar, oblique, and parallel) and principles of good melodic writing. Phrase beginnings and endings will imply tonic and dominant (seventh) harmonies.

2. Incorporate chordal skips, dissonant passing tones, and neighbor tones on the offbeats, and occasionally passing and neighbor tones on the beat.
3. Treat the P4 as a dissonance—as a passing or neighbor tone or in a 4–3 suspension.
4. Avoid similar motion into perfect intervals unless the upper voice moves by step.
5. Avoid parallel perfect consonances (P5–P5, P8–P8) from offbeat to beat or on consecutive beats.
6. Occasionally include dissonant suspensions, especially approaching a cadence.

Did You Know?

The melodies of hymns were often composed long before the familiar SATB settings that are sung now; they also appear with different harmonizations and texts appropriate to different occasions. For example, the tune "Chartres" is a fifteenth-century French melody, but the four-part harmonization included here is by Irish composer Charles Wood, written in the nineteenth century. Our harmonization of "Old Hundredth" is by Louis Bourgeois, from the sixteenth century; one text that is often sung with this melody today is the "Doxology." The melody "St. George's Windsor," here in a nineteenth-century harmonization by George J. Elvey, is associated in the United States with the Thanksgiving hymn "Come, ye thankful people, come." These harmonizations come from the *Episcopal Hymnal* of 1940.

TERMS YOU SHOULD KNOW

accented passing tone
cadence
chordal dissonance
chordal skip
homorhythmic
rearticulated suspension phrase

QUESTIONS FOR REVIEW

1. What are some differences between strict first-species counterpoint and note-to-note eighteenth-century counterpoint?
2. What dissonant intervals are components of a dominant seventh chord? How should each of these dissonances resolve?
3. What types of motion are allowed when approaching a perfect interval?
4. What are typical soprano-bass patterns for openings with an anacrusis?
5. What types of conclusive cadences are used in two-part eighteenth-century style? What are the characteristic scale degrees in each part?
6. What is different about the use of passing tones, neighbor tones, and suspensions in eighteenth-century style as opposed to species style?
7. What steps should you follow to harmonize a melody in eighteenth-century style?

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12

The Basic Phrase in SATB Style

Outline

The basic phrase
- Defining the phrase model: T–D–T
- Establishing the tonic area
- Cadential area and cadence types

The notation of four-part harmony
- Writing for voices: SATB

Connecting the dominant and tonic areas
- Resolving the leading tone in V and V^6
- Perfect consonances

Melody and accompaniment
- Writing for keyboard
- Harmonizing a melody
- Creating an accompaniment

Overview

This chapter introduces the basic phrase—the harmonic foundation for most tonal music, from short phrases to entire movements. We arrange its harmonic pillars, I and V, in SATB and keyboard styles, and harmonize a melody with keyboard

accompaniment.

Repertoire

Johann Sebastian Bach
- "Ach Gott, vom Himmel sieh' darein" ("O God, Look Down on Us from Heaven," Chorale No. 253)
- "Wachet auf" ("Awake," Chorale No. 197)

Ludwig van Beethoven
- Piano Sonata in D Minor, Op. 31, No. 2 (*Tempest*), mvt. 3
- Sonatina in F Major, Op. Posth., mvt. 2

Muzio Clementi, Sonatina in C Major, Op. 36, No. 1, mvt. 1

"Clementine" (folk tune)

Joseph Haydn, Piano Sonata No. 9 in F Major, Scherzo

"Merrily We Roll Along"

Wolfgang Amadeus Mozart, Piano Sonata in C Major, K. 545, mvt. 1

"My Country, 'Tis of Thee"

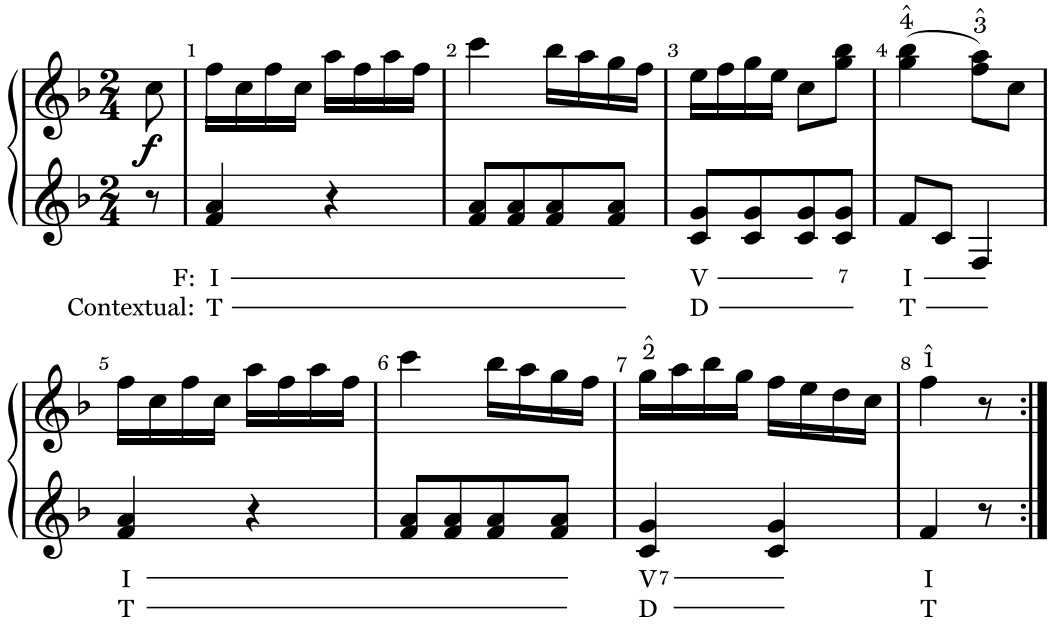
The Basic Phrase

A **phrase**, as we learned in Chapter 11, is a basic unit of musical thought, and its end is marked by a cadence: the harmonic, melodic, and rhythmic features that make a phrase sound like a discrete thought. Phrases may end conclusively (like a sentence punctuated with a period) or inconclusively (like a clause punctuated with a comma or semicolon).

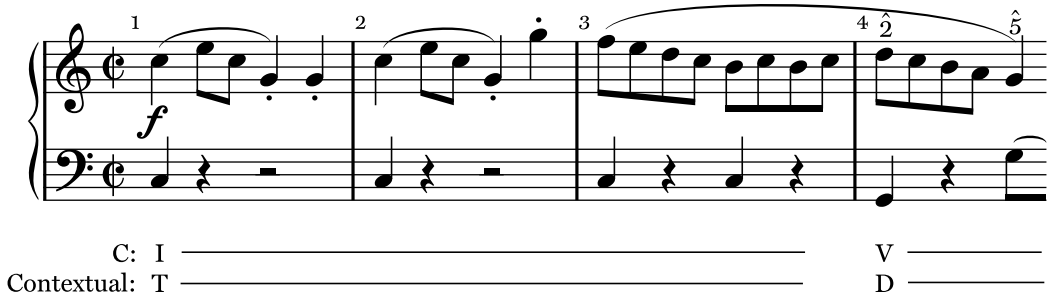
Listen to the Haydn Scherzo and Clementi Sonatina excerpts in Examples 12.1 and 12.2. The Haydn passage consists of two complete four-measure phrases, the Clementi excerpt just one phrase.

KEY CONCEPT In Classical-era compositions, phrases are typically four or eight measures long. Phrases of equal duration tend to follow one another in succession: 4 + 4 or 8 + 8. This regularity differentiates Classical from Baroque style, where lengths frequently differ from phrase to phrase.

EXAMPLE 12.1: Haydn, Piano Sonata No. 9 in F Major, Scherzo, mm. 1–8



EXAMPLE 12.2: Clementi, Sonatina in C Major, mvt. 1, mm. 1–4



Which of the Haydn and Clementi phrases sounds most conclusive (as a complete musical thought) and which the least conclusive (as though the music must continue)? To answer this question, listen for the melodic scale degree with which each phrase ends, as well as its harmonic support. Conclusive cadences, like the final cadence of the Haydn excerpt, sound finished. They generally end on $\hat{1}$ (here, F) in both the soprano and bass. In addition, the bass motion from $\hat{5}$ to $\hat{1}$ (C to F) provides strong closure. While the first cadence, in measures 3–4, sounds *somewhat* conclusive–it ends with $\hat{5}$ to $\hat{1}$ in the bass –it is weaker than the final cadence because its soprano ends

on $\hat{3}$ (A) rather than $\hat{1}$ (F). The cadence in Example 12.2 (Clementi) sounds the most inconclusive, as though the music needs to continue; it does not end with $\hat{1}$ in either the soprano or the bass.

Recognizing conclusive and inconclusive phrase types can help you shape a musical performance—by using expressive timing techniques (rubato), for example, to emphasize the arrival on the tonic in a conclusive phrase.

Defining the Phrase Model: T–D–T

Conclusive phrases include at least three tonal areas, which form the harmonic structure of the **basic phrase**: an opening tonic area (T), a dominant area (D), and tonic closure (T) at the cadence (these areas are marked in Examples 12.1 and 12.2 as a lower analytical layer). The T–D–T basic phrase governs both large- and small-scale harmonic motion in much tonal music. Inconclusive phrases like the one in Example 12.2 begin with the tonic area and then cadence in the dominant area, T–D, rather than completing the full pattern.

KEY CONCEPT In two-level analyses, the top level gives Roman numerals for each chord. The lower level supplies the **contextual analysis**—indicating how these harmonies function within the basic phrase model.

Establishing the Tonic Area

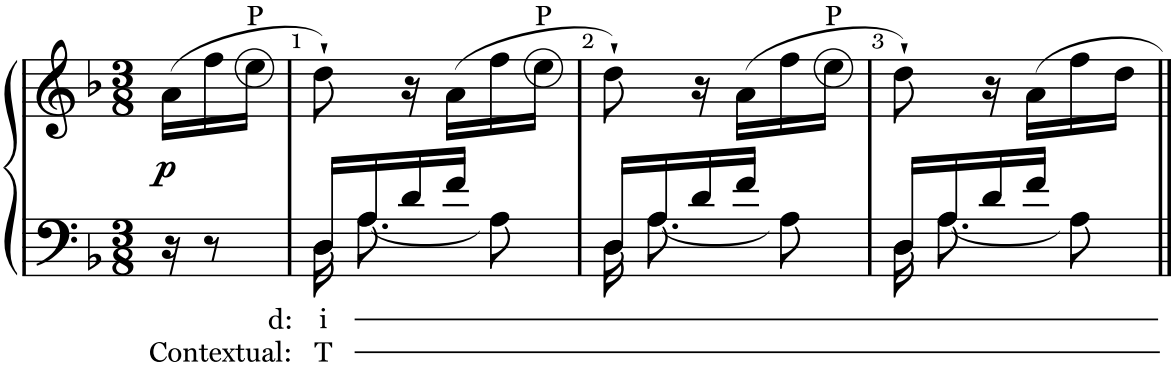
The tonic area at the beginning of the basic phrase establishes a stable home base. Typically, a root-position tonic triad begins the phrase, then the tonic area is expanded by

- repeating or arpeggiating the tonic triad,
- combining root-position and inverted tonic triads, or
- adding passing tones and/or neighbor tones between chord

members.

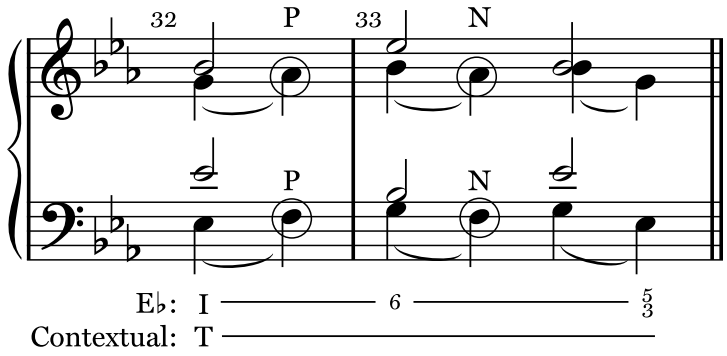
Both Examples 12.1 and 12.2 feature arpeggiation of the tonic and passing tones to extend the tonic area. So does Example 12.3, from a Beethoven sonata.

EXAMPLE 12.3: Beethoven, *Tempest* Sonata, mvt. 3, mm. 1–3



Example 12.4, from Bach's setting of a chorale melody, expands the tonic by moving to first inversion and back. In writing the analysis, you need not repeat the Roman numeral I in measure 33, but may simply show the change in inversion. Passing and neighbor tones in parallel tenths between the bass and alto voices add contrapuntal interest.

EXAMPLE 12.4: Bach, "Wachet auf," mm. 32–33

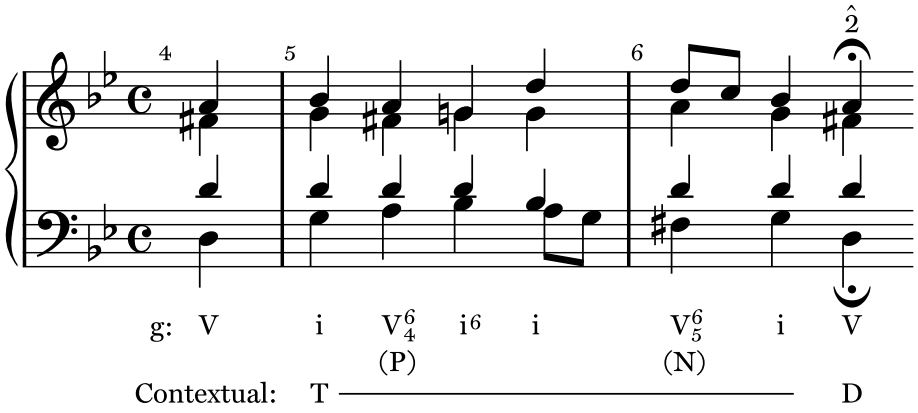


At the beginning of a basic phrase, dominant chords can also be used to expand the tonic area in one or more of these contexts:

- on weak beats (e.g., I–V–I, with V on the weak beat);
- in inversion, which weakens their harmonic strength;
- with bass-line passing or neighboring motion between two tonic triads; or
- as an anacrusis to the opening tonic triad.

Example 12.5 shows each of these contexts. Bach's chorale begins with a weak-beat dominant anacrusis; in the contextual analysis, delay the T label until the arrival of the tonic triad. With its tendency tones (the leading tone and chordal seventh), this chord actually has the effect of strengthening the initial tonic. In measures 5–6, each dominant chord appears in inversion; the first on a weak beat and in a passing context (P) and the second in a neighboring context (N). Both chords expand the tonic area until the cadence on the dominant—marked here by a **fermata**, or pause (𝄐).

EXAMPLE 12.5: Bach, "Ach Gott, vom Himmel sieh' darein," mm. 5–6



SUMMARY

To complete a contextual analysis:

- First write a complete first-level Roman numeral analysis below the score.
- Below the opening tonic chord, write T; no label is needed for a dominant anacrusis, if present.
- Find the cadence: if the phrase ends with V–I, label the concluding chords as D–T. If it ends on V, mark the final chord as D.
- Now consider how the tonic area is expanded: look for weak-beat root-position V chords, inverted V chords, or passing motion between inversions of I. Draw a line from the initial T as long as the tonic area continues.

Cadential Area and Cadence Types

Look back at the two phrases from Haydn's sonata in Example 12.1: both end with V^7–I cadences, but (as is usual in paired phrases) the first cadence is weaker than the more conclusive second.

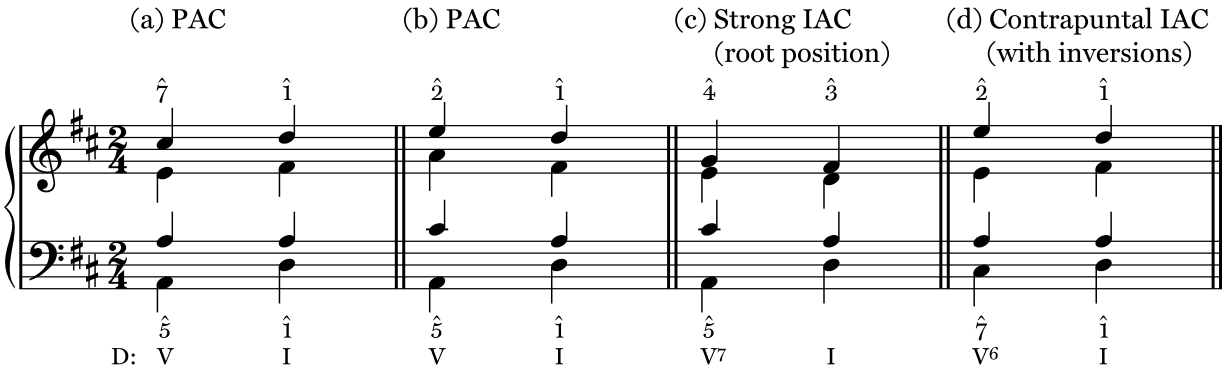
Authentic Cadences The cadential area of a T–D–T phrase is its dominant-to-tonic ending. Two types of cadences may

conclude such phrases, both known as authentic cadences.

KEY CONCEPT An **authentic cadence** (AC) is formed when V moves to I to end a phrase. It is most definitive when the harmonies are in root position and the soprano line moves from $\hat{7}$ to $\hat{1}$ or $\hat{2}$ to $\hat{1}$ (Example 12.6a and b), making a **perfect authentic cadence** (PAC). An **imperfect authentic cadence** (IAC) occurs when one of these factors is weakened; the most common IAC ends with $\hat{4}$–$\hat{3}$ in the soprano (part c).

"Authentic" refers to the progression V–I, and "perfect" indicates that the soprano and bass are in their strongest positions: root-position harmonies ending with $\hat{1}$ in the soprano. Because motion between root-position V or V^7 and I has such a pronounced cadential sound, this chord sequence is often reserved for final cadences and used less often mid-phrase, where inverted dominant harmonies help expand the tonic area.

EXAMPLE 12.6: Authentic cadence types in four voices



A strong IAC, as in part (c), makes a less conclusive cadence than a PAC would; it appears in a wide variety of styles of music at locations where a less conclusive cadence is desirable. The

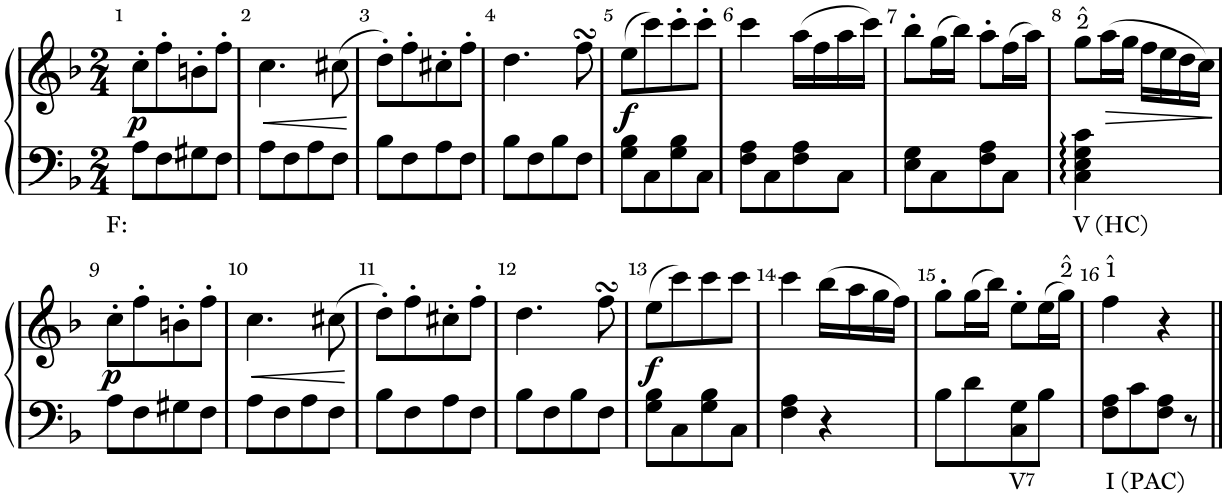
progression V^6 to I in part (d), with an inverted dominant harmony, often appears earlier within a phrase as part of the initial tonic (T) area. If it comes at the end of a phrase, we call it a **contrapuntal IAC**. If you are considering labeling a cadence with an inverted dominant harmony, first determine whether this is a true phrase ending or an expansion of the tonic area. A true phrase ending requires more contextual support in the form of other features (slowing down, longer note values, end of a line of text).

Half Cadence An inconclusive cadence that ends on V, as in Example 12.2 or 12.5, is called a **half cadence** (HC). Here the basic phrase model is incomplete or interrupted (T–D); the phrase ends in the dominant area without moving on to the tonic.

KEY CONCEPT Authentic cadences are defined by two chords (V–I), but half cadences are identified only by their final chord; the chord that precedes the V could be one of several possibilities. Half cadences usually end on a root-position dominant triad, and often (though not always) feature $\hat{2}$ in the soprano. Although not common in Baroque or Classical styles, a half cadence ending on V^7 is also a possibility, especially in folk or popular styles.

Half cadences often function like a comma in a sentence, where an inconclusive phrase ending (HC) is followed by a conclusive one (AC), as in Example 12.7.

EXAMPLE 12.7: Beethoven, Sonatina in F Major, mvt. 2, mm. 1–8



Listen to these two phrases. At measure 8, the melody pauses briefly on an eighth-note $\hat{2}$ (G5) before launching into a sixteenth-note flourish that links to phrase 2; for its part, the harmony comes to rest on a quarter-note V chord. Measure 9 initiates a new phrase, with music almost identical to measure 1. Therefore, although V (m. 8) does move on to I (in m. 9), it does not create an authentic cadence here—rather, harmonic, melodic, and rhythmic factors divide the music into two distinct eight-measure phrases, each with its own cadence: a HC at measure 8 and a PAC at measure 16.

SUMMARY

The musical role of a phrase is defined in part by its cadence.

- A perfect authentic cadence (PAC) ends with root-position V–I and the melody ending $\hat{2}$–1 or $\hat{7}$–$\hat{1}$; this is the strongest phrase ending.
- An imperfect authentic cadence (IAC) also ends with V–I, but the melody ends on $\hat{3}$ or $\hat{5}$ for a less conclusive phrase ending. A strong IAC has root-position harmonies; a contrapuntal IAC includes inversions.
- A half cadence (HC) ends on V, with the melody

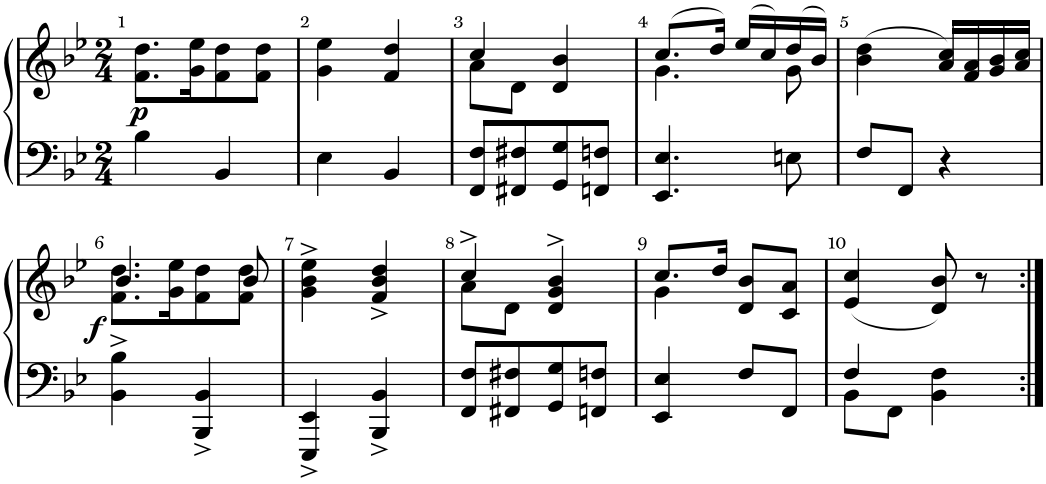
often on $\hat{2}$; an inconclusive phrase ending.

Try it #1

A. Listen to an excerpt from Brahms's *Variations on a Theme by Haydn*. Identify the measure numbers of one HC and one PAC. Analyze the cadential harmonies with Roman numerals.

Show answers

HC: _____ PAC: _____

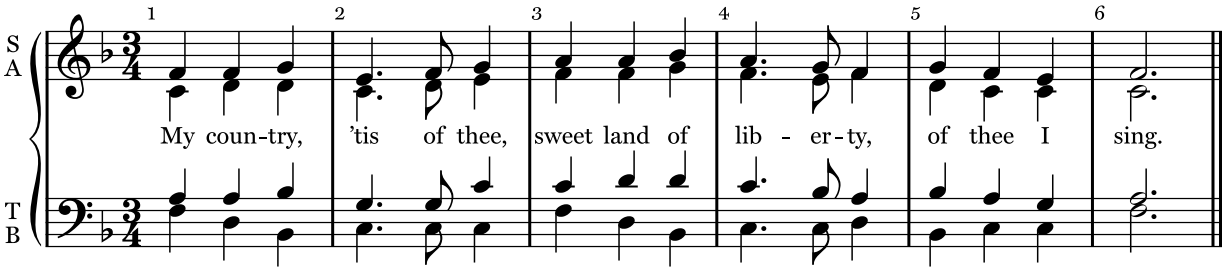
B. How do Brahms's phrase lengths differ from the Classical-era works we have studied so far?

The Notation of Four-Part Harmony

In Chapter 11, we saw how familiar principles of two-voice species counterpoint may be found in eighteenth-century style, specifically in the outer voices of hymns. We turn now to writing in four voices, or **SATB** style (so named from the voices –high to low–soprano, alto, tenor, bass). In SATB settings, individual members of triads and seventh chords are assigned to particular octaves; these chords, as we have seen, are not always in root position but are voiced in different inversions to create a smooth bass melody.

Writing for Voices: SATB

Listen to "My Country, 'Tis of Thee" (Example 12.8), and focus on the spacing and registers (highness or lowness) that characterize the four distinct vocal parts.

EXAMPLE 12.8: "My Country, 'Tis of Thee," mm. 1–6



To write a good SATB setting that is easy to sing, keep five basic concepts in mind: (1) clear notation, (2) comfortable vocal ranges, (3) spacing that allows the voices to blend well, (4) independent melodic lines, and (5) appropriate chordal doublings. We will consider each in turn.

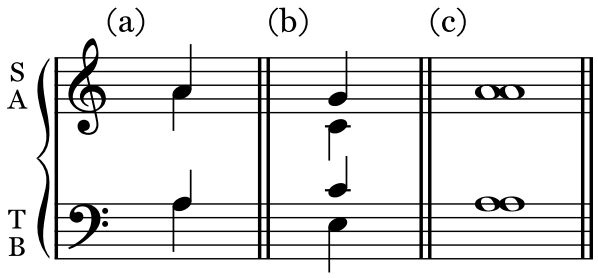
Staff, Clefs, and Stems On a grand staff, notate the soprano and alto voices on the treble staff and the bass and tenor voices on the bass staff.

KEY CONCEPT The direction of stems, combined with the clef, indicates which notes each voice part sings (Example 12.8):

- soprano: treble staff, stems up
- alto: treble staff, stems down
- tenor: bass staff, stems up
- bass: bass staff, stems down

Sing or play each voice part in Example 12.8 as a melody. If the soprano and alto sing the same note at the same time, the note will have two stems: one up for soprano and one down for alto (as in m. 4, beat 3). This is true for the tenor and bass as well (see Example 12.9a). When alto and tenor sing in unison, however, each voice receives its own note–one for each staff (part b). When either soprano and alto or tenor and bass sing unison whole notes, write two whole notes right next to each other (part c).

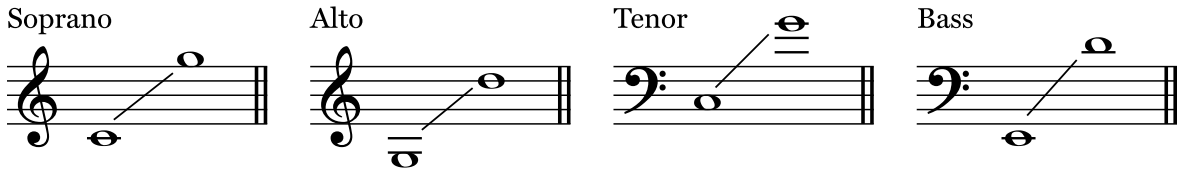
EXAMPLE 12.9: Notating unisons in SATB style



Range The pitches in each vocal part should fall within a comfortable singing range for the performers, as shown in

Example 12.10. These ranges are somewhat flexible—they will vary depending on the age and experience of the singer and the style of music being performed—but in general you should stay within these guidelines.

EXAMPLE 12.10: SATB vocal ranges

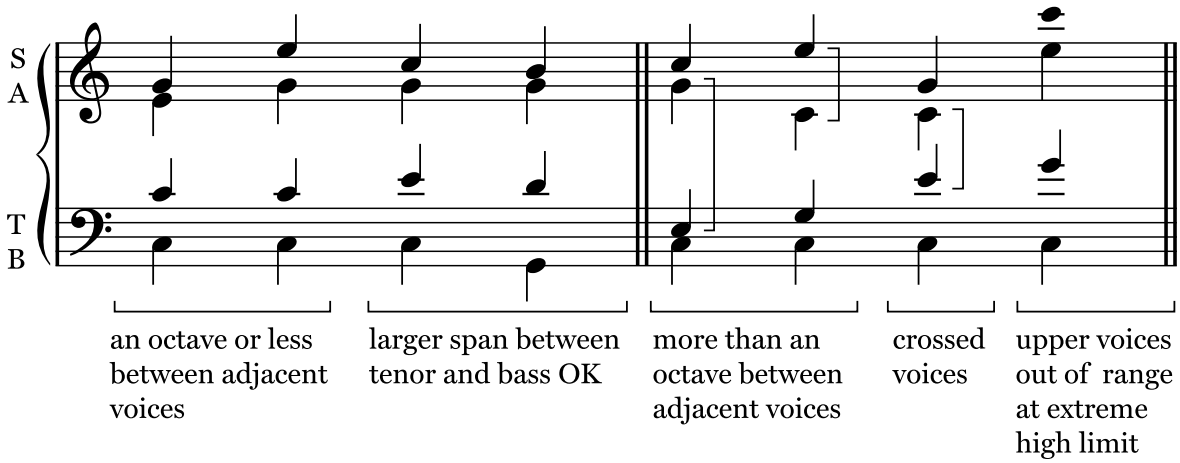


Spacing Four-part chords sound best if the interval between adjacent pairs of the upper parts (SAT) is an octave or less, to allow the parts to blend well. The distance between tenor and bass may be wider; these voices can sound muddy if written too close together in a low octave. This spacing principle is based on the overtone series (Appendix 3), in which the lowest tones above the fundamental (lowest note) are more widely spaced than the upper tones.

Example 12.11 provides some examples of good and poor spacing. In part (a), all chords except the second are in **close position**: the upper three voices are as close together as possible. The second chord is in **open position**: the soprano and alto E5 and G4 skip over a potential chord tone, C5, and the alto and tenor G4 and C4 skip over the chord tone E4. Still, all four triads show good spacing choices. In part (b), the poor voicing between alto and tenor (first chord) can be hard to see on the grand staff.

EXAMPLE 12.11: Spacing guidelines

(a) Good spacing (b) Poor spacing


S
A
T
B
an octave or less between adjacent voices
larger span between tenor and bass OK
more than an octave between adjacent voices
crossed voices
upper voices out of range at extreme high limit

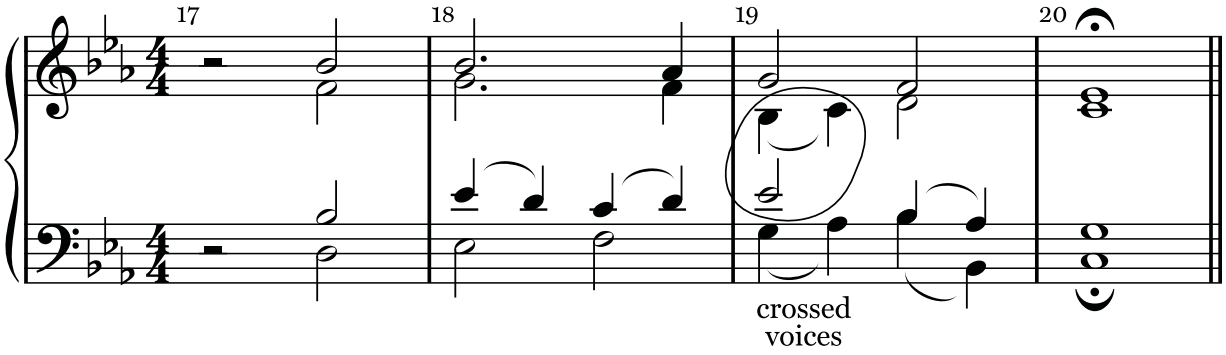
SUMMARY

In SATB style:

- The interval between the soprano and alto and between the alto and tenor is an octave or less.
- The interval between the tenor and bass may exceed an octave, but usually remains within a twelfth.

Independent Melodic Lines In strict SATB style, each voice should fall within its own range, and **voice crossings** should be avoided: one voice should not be higher than the part above it or lower than the part below it within a chord (see Example 12.11b, third chord). In Bach chorale settings, however, the composer sometimes writes voice crossings to create a more interesting melodic line, as in measure 19 of Example 12.12; here the tenor line soars upward above the alto, which drops to move in parallel thirds with the bass. When you find voice crossings like these, or any other departures from the basic guidelines, in music you are studying, consider which concerns may have motivated the composer's choices.

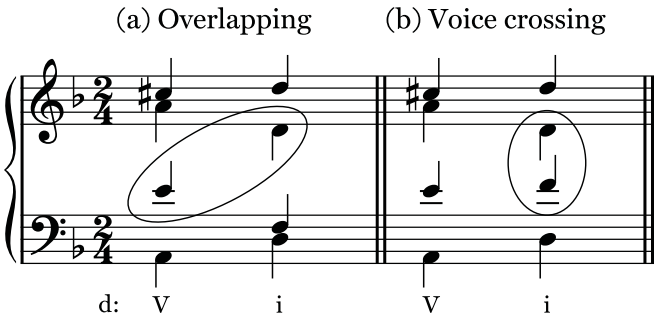
EXAMPLE 12.12: Bach, "Wachet auf" (chorale), mm. 17–20



Overlapping is related to voice crossing, except that it occurs between two chords rather than within a single chord. Both errors result in less independence of line: a listener trying to "follow" one voice by ear would probably confuse it with another.

Example 12.13 shows both types of problem. In part (a), the tenor's E5 in the V chord is higher than the alto's D4 in the tonic triad. In (b), the alto's D4 is lower than the tenor's F4 in the tonic triad. Overlapping and voice crossing often occur in conjunction with other voice-leading errors. For instance, in part (a), the tenor's downward leap of a seventh is difficult to sing, and the tonic triad triples the root and omits the fifth (see the doubling guidelines for triads on p. 240). In part (b), the tonic likewise has no fifth and the alto-bass voice-leading moves in contrary octaves. In both examples, the alto A4 leaps down by fifth, when it could skip by third to F4.

EXAMPLE 12.13: Overlapping and voice crossing



Try it #2

Try it #2

Evaluate the range and spacing of each SATB chord below. In the blanks, write the chord's root, quality, and figure, and the letter from the list below (A–E) that best describes the chord's voicing.

Show answers

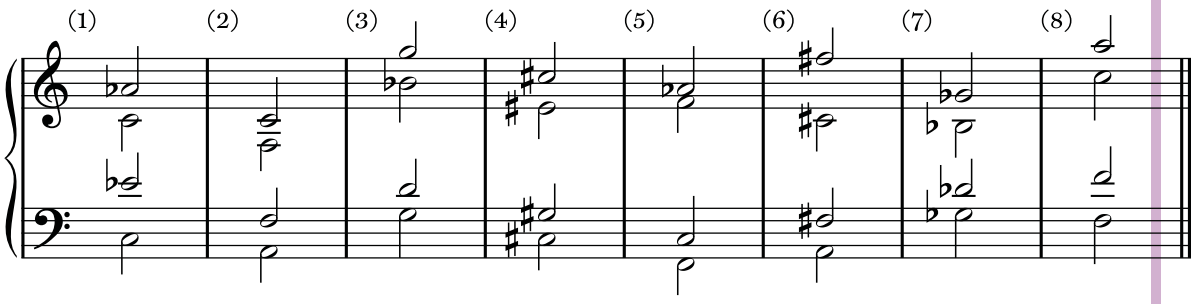
A. Proper range and spacing.

B. A vocal range extends beyond the recommended guidelines.

C. Spacing between soprano and alto exceeds an octave.

D. Spacing between alto and tenor exceeds an octave.

E. Voices are crossed.



	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Root:	A♭							
Quality:	maj							
Figure:	$\frac{6}{3}$							
Voicing:	E							

Doubling Because triads consist of only three chord members, one of them must be represented twice, or doubled, to make four parts. Following are general guidelines for doubling, but you will find exceptions in some pieces, where the doubling differs because of the musical context. Where two possibilities are available for doubling, use the one that produces the smoother connection between chords and a more independent

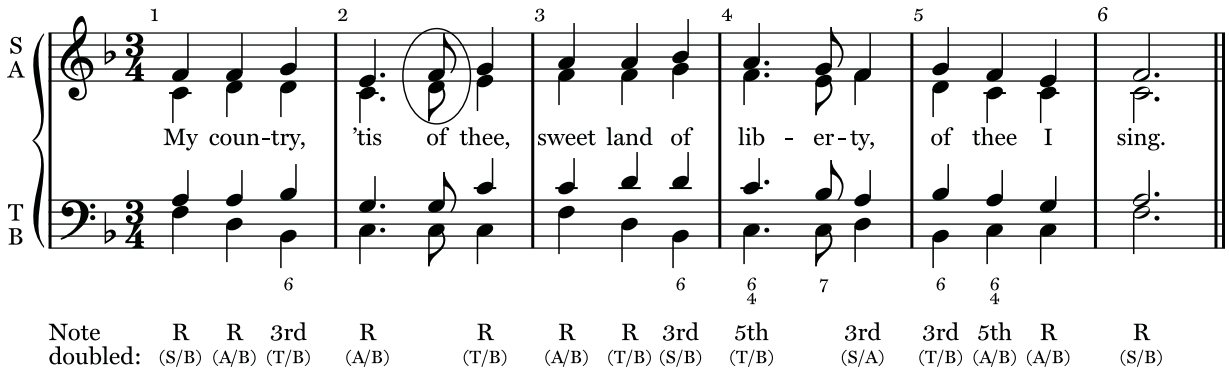
vocal line.

KEY CONCEPT Doubling guidelines for triads:

1. Never double a note with an accidental or a **tendency tone**: a scale degree or chord member that must be resolved, such as the leading tone (♯7̂).
2. In root position (major or minor quality), usually the bass (root) is doubled.
3. For first inversion, you can double any chord member that does not have an added accidental and is not a tendency tone. Doubling the soprano is one common strategy for major or minor triads; doubling the bass is another.
4. For second inversion, always double the bass.
5. For diminished triads (which often appear in first inversion), double the bass (the third of the chord). Occasionally, the fifth may be doubled. Doubling the root emphasizes the dissonance and will cause voice-leading problems when you resolve the chord's d5.

Example 12.14 shows "My Country" with chord positions and doubling indicated. (Remember, the absence of figures means root position. For now, disregard the circled passing tones in m. 2.) In every root-position triad except one, the bass (the root) is doubled to make four parts (guideline 2); for that one exception (m. 4, on "-ty"), the third has been doubled at the unison. In both second-inversion triads (mm. 4–5), the bass is doubled (guideline 4). The guideline with the most variability is guideline 3, for first-inversion triads, where you can double any note as long as it is not a tendency tone. Here, each first-inversion triad doubles the bass, the third of the chord. Finally, the single seventh chord in this example (m. 4) includes all four chord members, so needs no doubling.

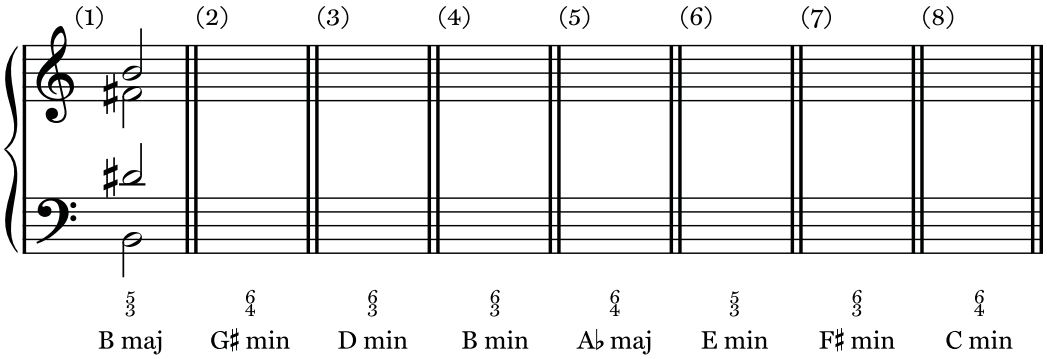
EXAMPLE 12.14: Doubling in "My Country, 'Tis of Thee," mm. 1–6



Try it #3

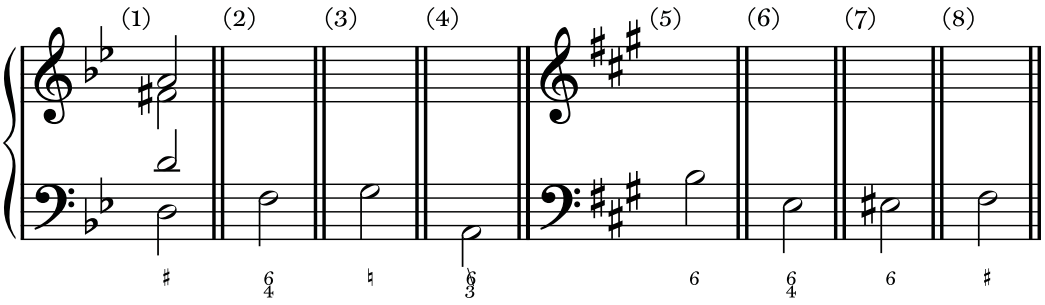
A. For each triad and inversion specified, write an SATB chord with the proper doubling.

Show answers



B. Now write an SATB chord with the proper doubling for each bass note and figured bass symbol. Remember, an accidental with no number applies to the third above the bass, and a slash through a number raises that pitch (the same as a ♯).

Show answers



SUMMARY

To write a good SATB setting, keep three basic goals in mind:

1. Voices should blend together with appropriate doubling and spacing.
2. Each vocal part should maintain an independent melodic line.
3. All parts should be easy to read and sing.

Connecting the Dominant and Tonic Areas

Resolving the Leading Tone in V and V^6

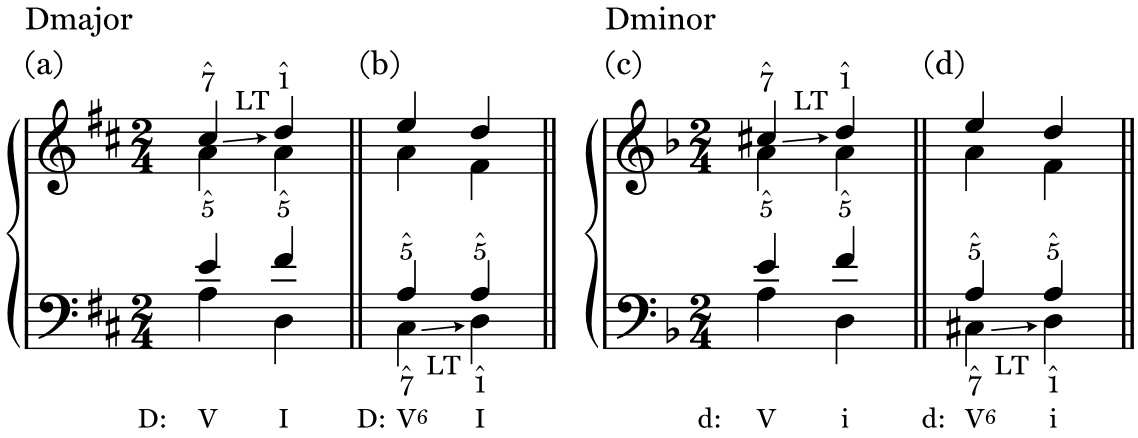
The process of connecting V and I, with strong voice-leading in SATB style, provides in a microcosm many concepts you will draw on when composing in freer styles. When V resolves to I, the leading tone $\hat{7}$ will almost always resolve up to $\hat{1}$ by half step. This is true whether the key is major or minor: in minor, remember to raise $\flat\hat{7}$ to $\hat{7}$. Although the dominant triad provides the strongest resolution to the tonic when in root position, first inversion (V^6) is common as well, with the bass line resolving $\hat{7}$–$\hat{1}$.

KEY CONCEPT Minor-key authentic and half cadences always need an accidental to create a leading tone and a major-quality V chord.

Example 12.15 shows different resolutions of V–I in D major and D minor. Memorize the voice-leading of each part to write this chord connection correctly.

- $\hat{7}$ resolves up by half step to $\hat{1}$ (C♯ to D), whether in an upper voice (parts a, c) or the bass (parts b, d).
- $\hat{2}$ moves by step, either to $\hat{3}$ (parts a, c) or $\hat{1}$ (parts b, d).
- Because I and V share one note ($\hat{5}$), this pitch is often retained as a common tone in the same upper voice: here, the A is kept in either the alto or tenor. It may also drop to $\hat{3}$ to complete the triad (the alto in parts b, d).

EXAMPLE 12.15: Resolution of V–I (i) and V6–I (i)



These voice-leading guidelines are based on the following general principles.

- In the upper three voices, move the smallest possible distance to another chord tone, generally by step or skip of a third. Avoid larger leaps.
- The leading tone should resolve up to $\hat{1}$.
- No voice should move by a melodic interval that would be difficult to sing, such as an A2, A4, or d5 (which may arise in minor keys).

Perfect Consonances

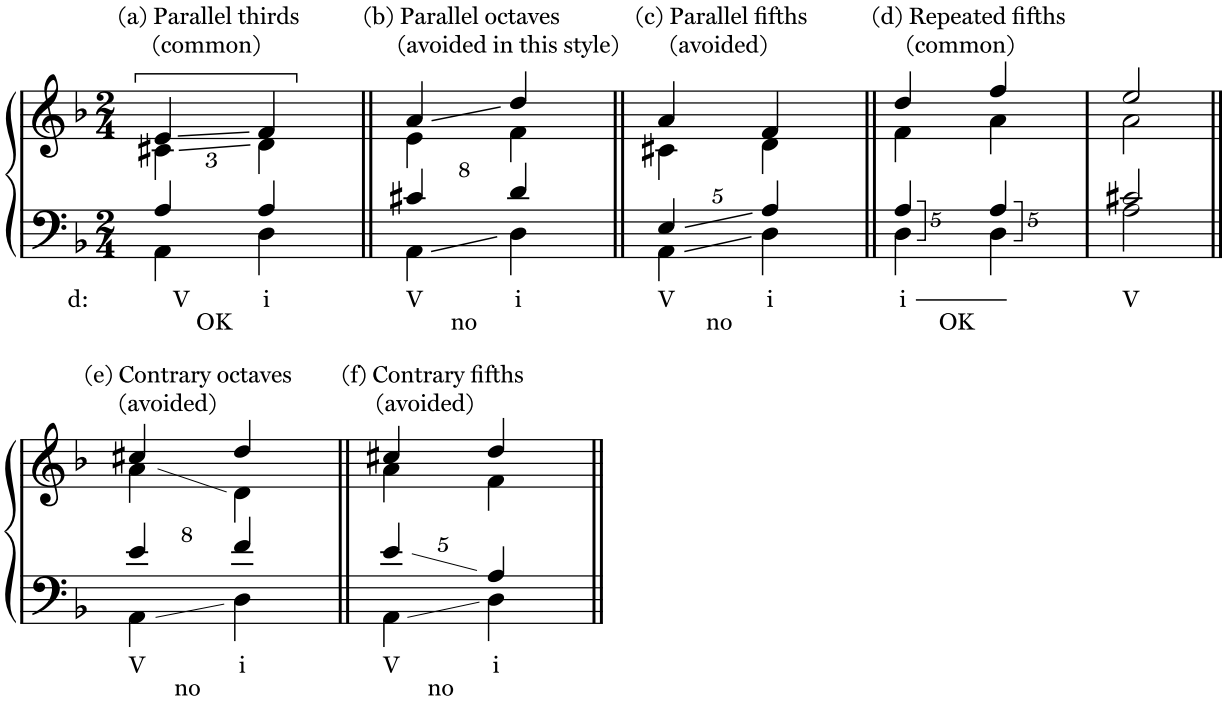
In SATB style, the principles of chord connection—connecting melodic lines in four voices—are intimately related to those for writing counterpoint in two voices.

- In both two- and four-voice writing, parallel motion between imperfect consonances—6 to 6, or 3 to 3—is fine (Example 12.16a), provided that it does not continue so long that the voices lose their independence.
- Parallel octaves or fifths are avoided (parts b and c) because they work against the principle of independent voices. (Parallel fifths may appear as a doubling of the melody in rock and folk music, though, and in some early

twentieth-century music.)

- A simple repetition of fifths or octaves is common (part d).
- As in species counterpoint, **contrary octaves** (part e) and **contrary fifths** (part f) are not allowed in strict SATB style.

EXAMPLE 12.16: V–I voice-leading guidelines

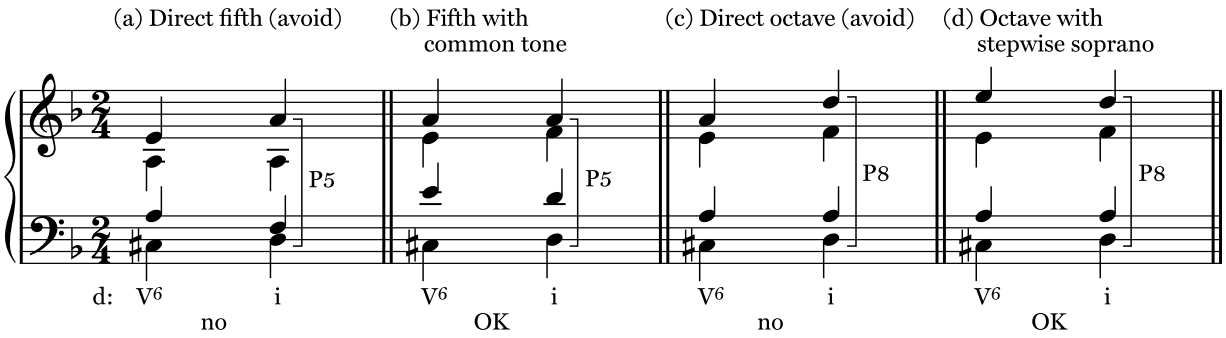


KEY CONCEPT Any perfect interval should be approached by contrary or oblique motion. Similar motion into a P8 or P5—direct, or hidden, fifths or octaves—is prohibited in the bass-soprano outer voices (unless the soprano moves by step), just as in species counterpoint (Chapter 9, Example 9.5), but allowed if at least one of the parts is an inner voice.

Direct octaves or fifths in the outer voices may sound as though the soprano has taken on the role of a bass line, as in Example 12.17a and c, where the soprano's leap of a fourth mimics bass

motion and emphasizes the "hollow" sound of the octave or fifth. Rewrite the soprano line so that it approaches the octave or fifth by step or common tone, and check the doubling (in part a, the fifth of the tonic triad is doubled).

EXAMPLE 12.17: Direct, or hidden, fifths and octaves



SUMMARY

When connecting V and I:

1. First, resolve the leading tone up to the tonic.
2. Keep the common tone ($\hat{5}$) in the same voice (of the upper three voices) if possible, and move the other upper voices to the closest possible chord member, by step or skip.
3. Check the motion both *into* and *out of* any perfect interval.
   - Approach by contrary or oblique motion (similar motion is acceptable if at least one part is an inner voice, or if the soprano moves by step).
   - When leaving a perfect interval, avoid moving the same two voices to the same perfect interval, creating parallel fifths or octaves.
4. Follow other principles of proper spacing, doubling, and voice-leading to create a good

harmonic blend, while maintaining an independent melodic line for each voice.

Try it #4

A. Write the key and Roman numerals for each V–I (or V–i) chord connection below. In the blanks below the staff, write the letter that best describes the voice-leading between chords.

Show answers

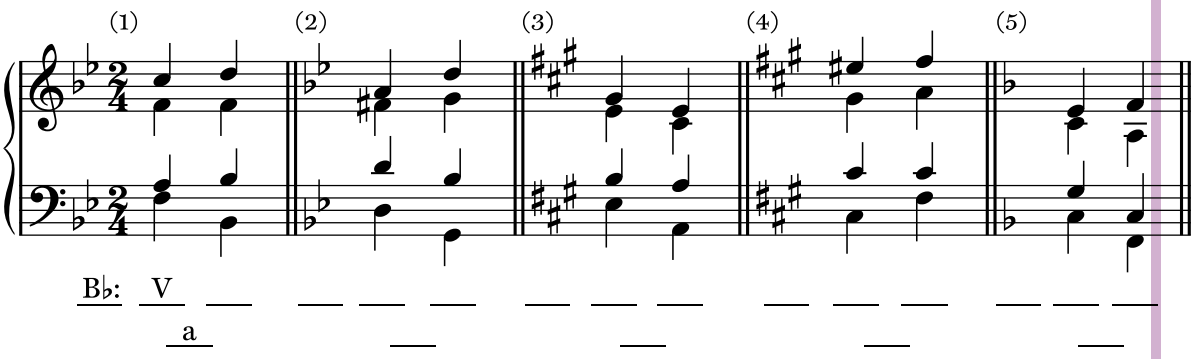
a. Proper voice-leading

b. Parallel fifths

c. Parallel octaves

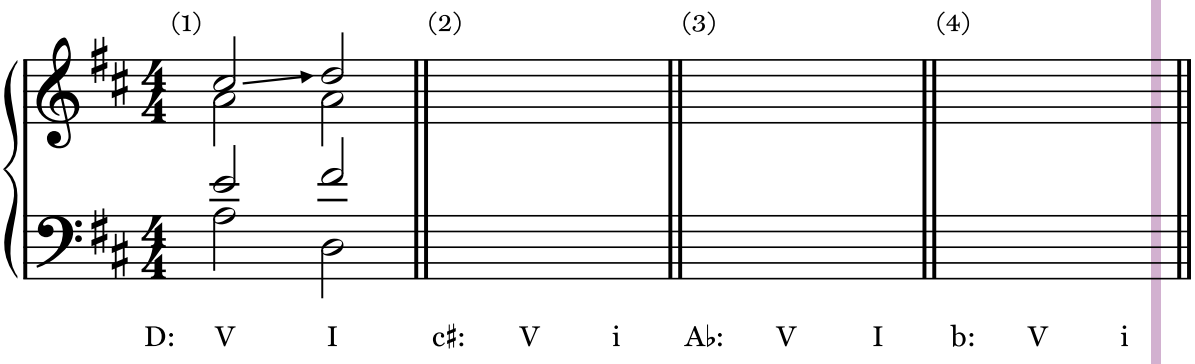
d. Unresolved leading tone

e. Contrary octaves or fifths



B. Connect V to I with proper voice-leading in each of the keys specified.

Show answers


(1)
(2)
(3)
(4)
D: V I
c♯: V i
A♭: V I
b: V i

Melody and Accompaniment

Writing for Keyboard

When you write for the keyboard rather than voices, you can take advantage of ten fingers and wider ranges. Numerous types of settings are possible, some with more than four voices. We will examine a wide variety of keyboard styles and textures in future chapters, but for now we will concentrate on assigning the four voices to two hands.

KEY CONCEPT **Texture** refers to the number and alignment of individual voices or instrumental lines in a composition. You are already familiar with three types.

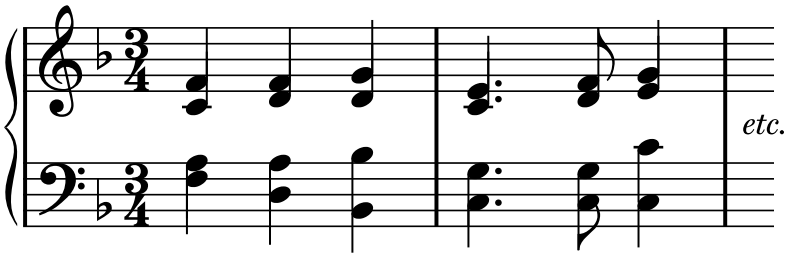
- **Contrapuntal** textures combine independent melodic lines to create harmonic intervals (as in species counterpoint).
- **Homophonic** textures are chordal, with most voices moving together homorhythmically and harmonies connected by voice-leading (as in SATB or hymn-style writing).
- **Melody-and-accompaniment** textures feature a rhythmically independent melody plus its harmonic support, which may include chordal arpeggiation or other types of figuration.

The last two textures concern us here.

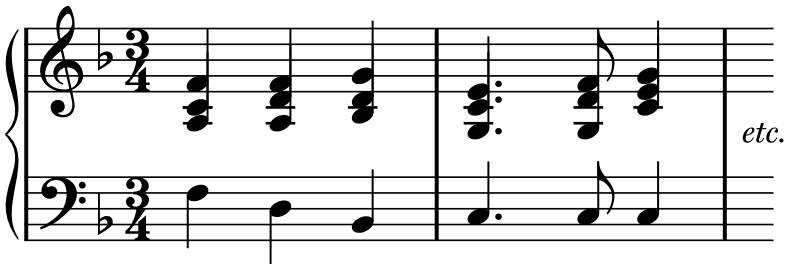
Homophonic texture Four-part homophonic textures written specifically for keyboard either stem the two parts on each staff together (Example 12.18a), or place the upper three voices in the right hand (part b). The upper three voices usually stay within an octave of one another so that the pitches fit comfortably in one hand. You will see this texture frequently, particularly in keyboard realizations of figured bass.

EXAMPLE 12.18: "My Country, 'Tis of Thee," mm. 1–2

(a) Two voices in each hand (typical for keyboard notation of hymns)



(b) Three voices in the right hand, one in the left (typical for figured bass)

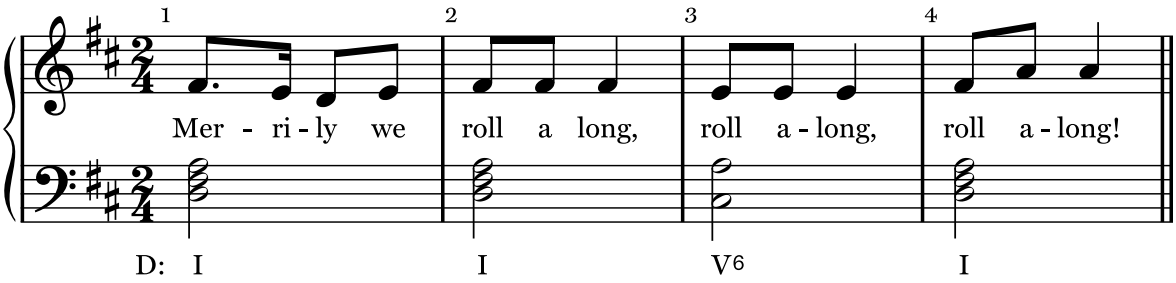


When you assign pitches to each hand, be sure they fall within a hand's reach—usually an octave. Limit the number of pitches per hand to three (possibly four) to allow the player a comfortable hand position and simultaneous attack. Avoid a large space between the hands (e.g., more than a tenth between the lowest pitch in the right hand and the highest in the left). Such a spacing would create the effect of two different chords, one in each hand, rather than a single chord.

Melody-and-accompaniment texture One additional distribution of voices appears frequently in accompanied melodies—three voices in the left hand and one in the right. This voicing, often taught in keyboard harmony classes, may be

used to accompany a right-hand melody, as in Example 12.19.

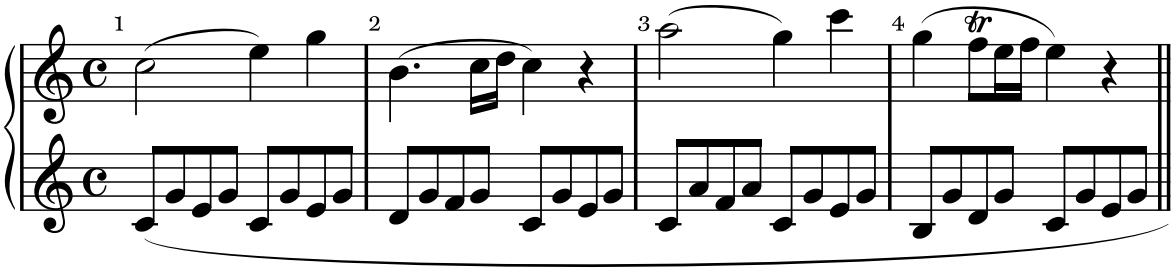
EXAMPLE 12.19: "Merrily We Roll Along," mm. 1–4



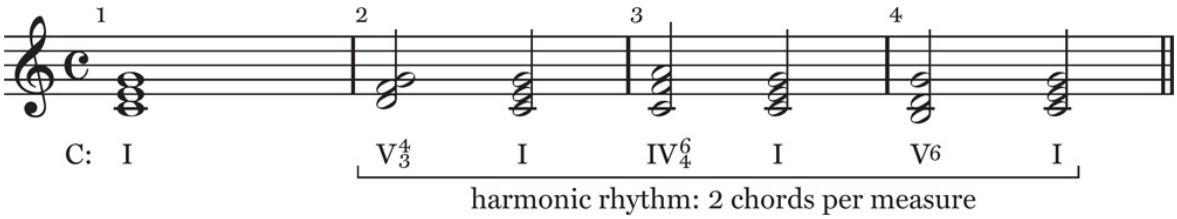
Left-hand chords also serve as a basis for arpeggiated accompaniments, such as Alberti bass. Listen to the passage shown in Example 12.20a, the opening measures of a Mozart sonata. This Alberti-bass accompaniment, with its low-high-mid-high contour, is based on the underlying chordal model shown in part (b).

EXAMPLE 12.20: Mozart, Piano Sonata in C Major, mvt. 1

(a) Mm. 1–4



(b) Reduction of mm. 1–4, left-hand part

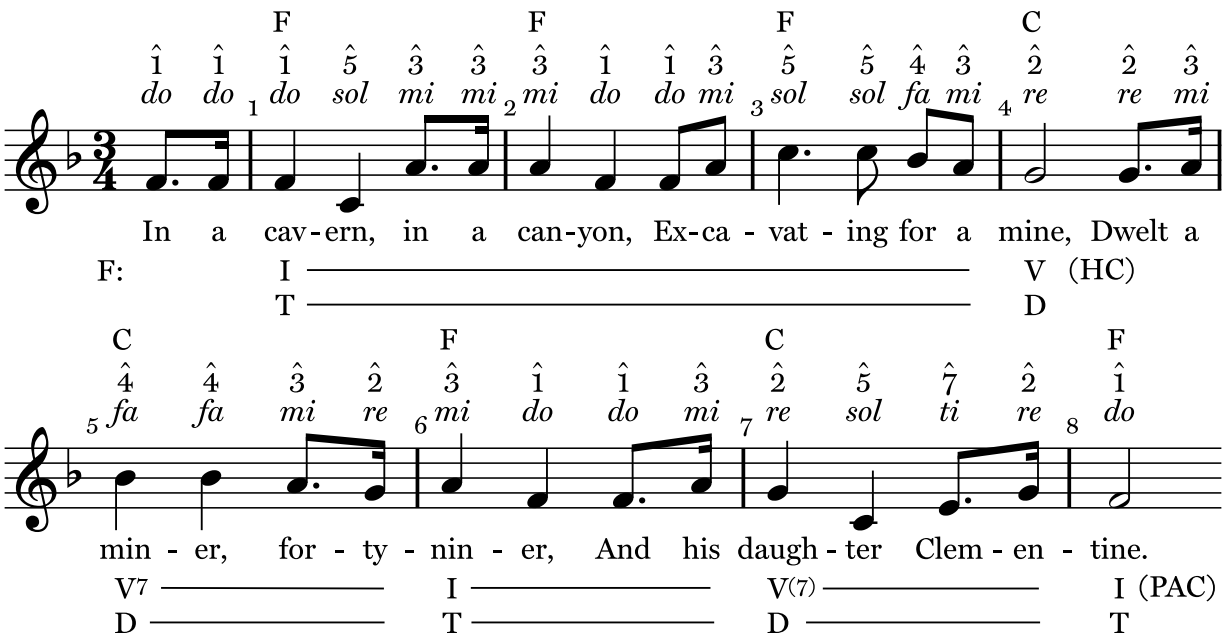


Harmonizing a Melody

When selecting harmonies for a melody of any type, first determine what the **harmonic rhythm** should be: how quickly the harmony needs to change to fit with the melody. This is an important element of musical style. In folk songs and some dance forms, for example, a typical harmonic rhythm is one chord per measure; pitches that do not belong to the harmony of the measure may be interpreted as passing, neighbor, or other embellishing tones. In Example 12.20, the harmonic rhythm is primarily two chords per measure. Once you have established a harmonic rhythm, keep it fairly consistent throughout. The one exception is at the cadence, where the harmonic rhythm often speeds up (more harmonies per measure), then comes to rest with a longer duration on the final chord.

Many simple folk songs, such as "Clementine" (Example 12.21), may be harmonized with just the tonic and dominant chords, following the basic phrase model. To write an accompaniment to this melody, identify the key and mode, then sing the melody with scale-degree numbers or solfège syllables. Let the numbers or syllables guide decisions about which phrases should end on I and which on V. In this example, phrase 1 ends in measure 4 on $\hat{2}$ ("mine") and implies a HC: a C major chord (V in the key of F major). Phrase 2 ends in measure 8 on $\hat{1}$ ("-tine"), implying a PAC. In two-phrase pairs, like this one, the first will often end on V, while the second completes the T–D–T basic phrase.

EXAMPLE 12.21: "Clementine" (melody), mm. 1–8

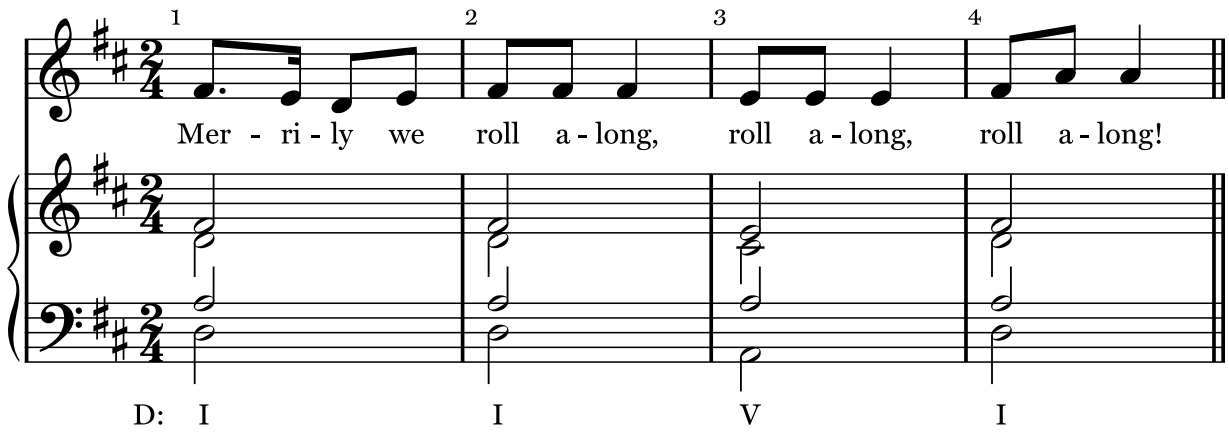

F F F C
do do 1 do sol mi mi 2 mi do do mi 3 sol sol fa mi 4 re re mi
In a cav-ern, in a can-yon, Ex-ca - vat - ing for a mine, Dwelt a
F: I V (HC)
T D
C F C F
5 fa fa mi re 6 mi do do mi 7 re sol ti re 8 do
min - er, for - ty - nin - er, And his daugh - ter Clem - en - tine.
V7 I V(7) I (PAC)
D T D T

Next, select harmonies based on the scale degrees and write the Roman numerals below or chord symbols above each measure. Since measures 1–3 arpeggiate F major, they will be harmonized with the tonic triad, moving toward the half cadence in measure 4; the B♭ in measure 3, beat 3, is a passing tone. The second phrase alternates between dominant and tonic harmonies, with the A in measures 4 and 5 additional passing tones. What remains now is to create an idiomatic keyboard accompaniment.

Creating an Accompaniment

One way to begin is to write a good SATB harmonization, and then add rhythmic figuration. Listen to the first phrase of "Merrily We Roll Along" as shown in Example 12.22, with an SATB harmonization below the melody.

EXAMPLE 12.22: "Merrily We Roll Along," mm. 1–4, with SATB accompaniment

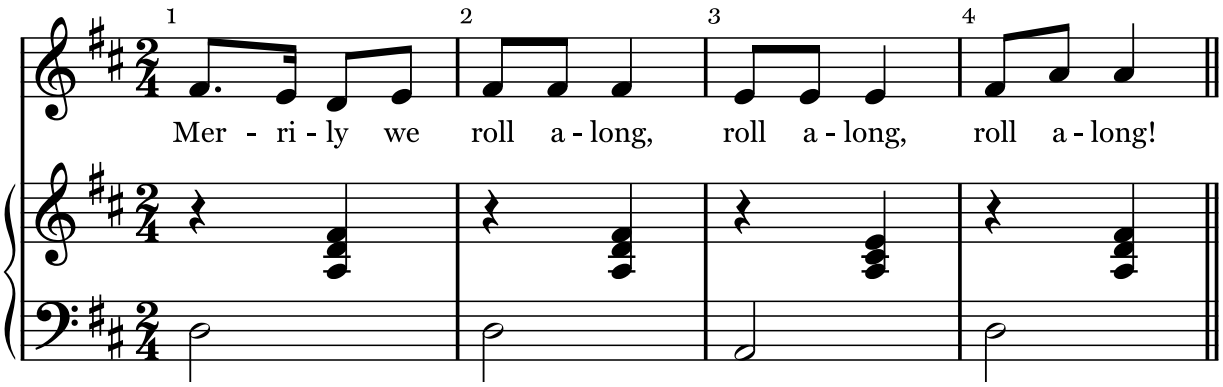


Example 12.23 illustrates five different keyboard textures that can be derived from this SATB model. Part (a) is a chordal pattern with the roots in the bass on the downbeat, and the other parts in the right hand delayed to beat 2. Part (b) is a rhythmic variant, where the upper parts come on the offbeats and beat 2 of each bar sounds $\hat{5}$ in the bass—similar to a Sousa march. The next three patterns are arpeggiated accompaniments, often chosen for lyrical settings. In part (c), the block chords of (a) are arpeggiated as even eighth notes, and in (d) as sixteenths. Part (e) doubles the melody in the right hand and realizes the chords as an Alberti bass in the left hand, changing V to V^6 for a smoother left-hand pattern.

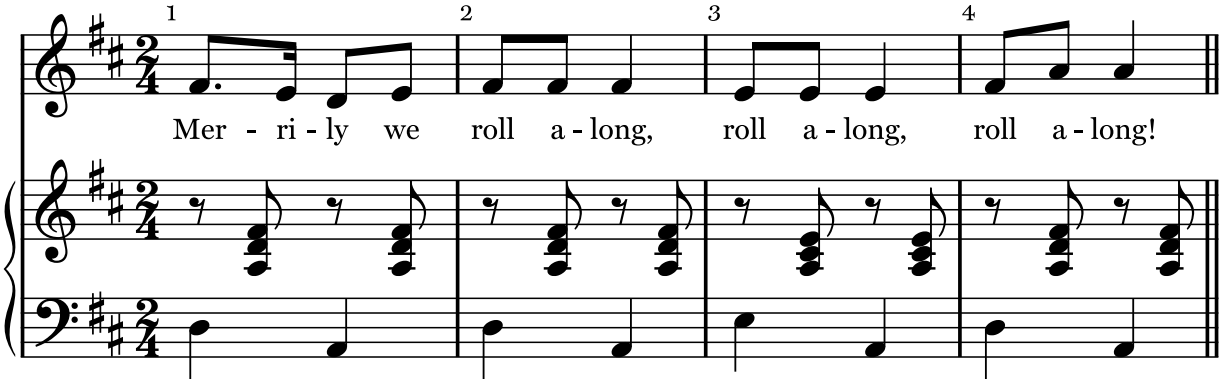
For a triple-meter melody, try a waltz bass—follow pattern (a), with the bass note on the downbeat and upper-voice chords on beats 2 and 3. Play or listen to each of these to see what a different effect the accompaniment has on the character of the setting.

EXAMPLE 12.23: "Merrily We Roll Along," mm. 1–4, with keyboard accompaniment patterns

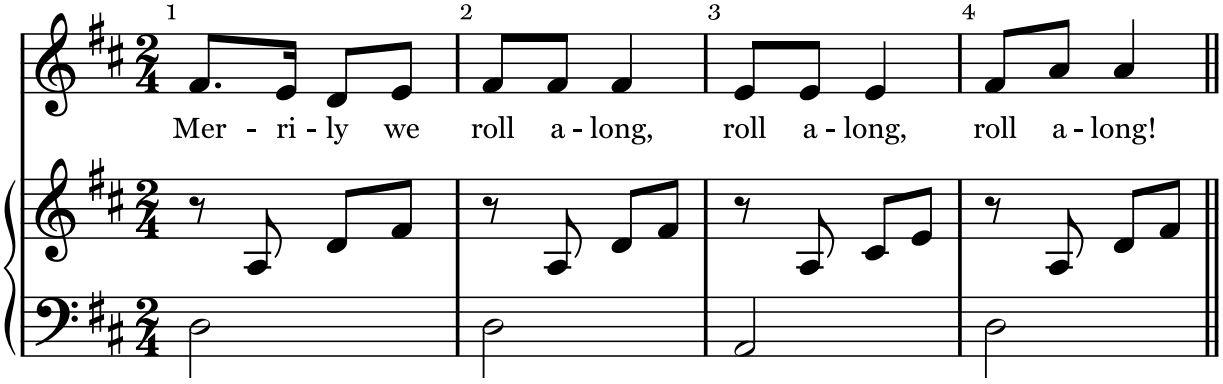
(a) With chords displaced to beat 2



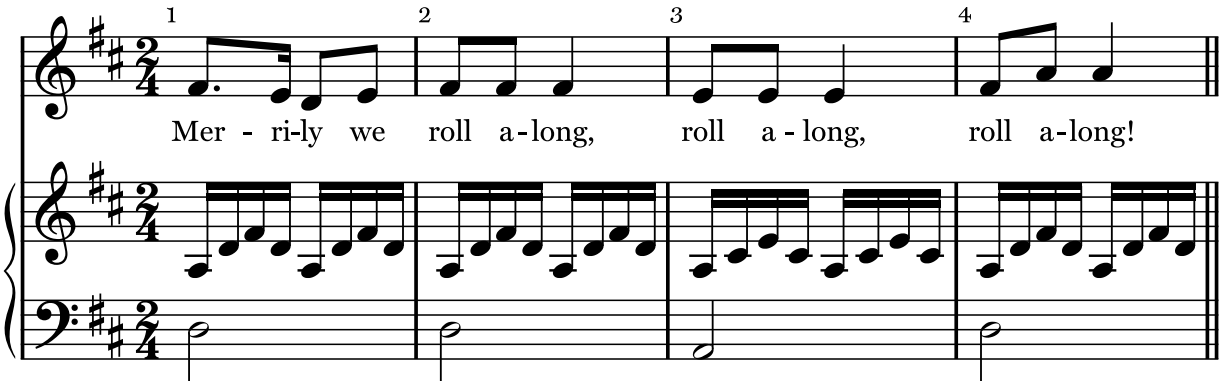
(b) With Sousa-style accompaniment



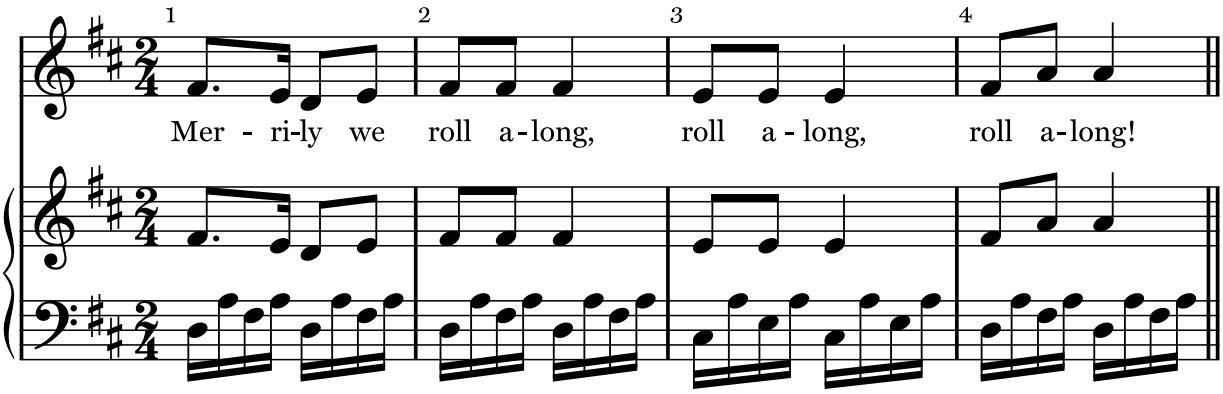
(c) With eighth-note arpeggiated accompaniment



(d) With sixteenth-note arpeggiated accompaniment

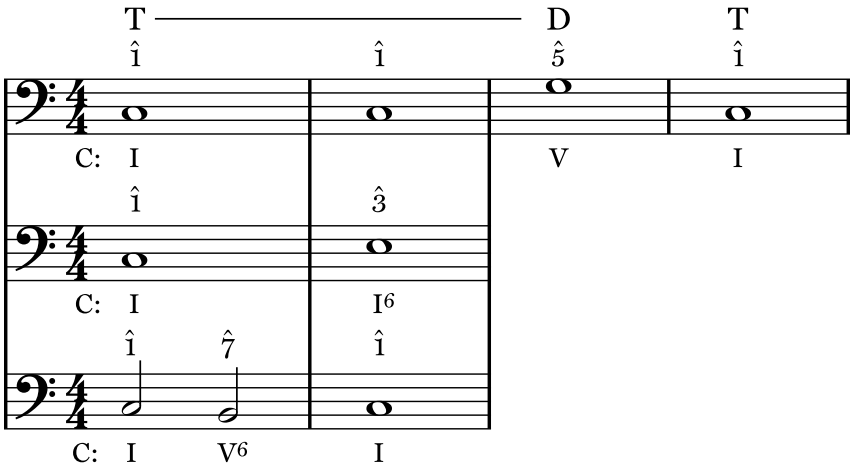


(e) With Alberti bass



As you can see in Example 12.24, the T–D–T phrase model captures the principles of harmonic progression we have studied thus far. The left-hand columns show three different ways to expand the tonic area: by simple reiteration, by motion to an inversion, or by bass-line neighboring motion with V^6. Any of these patterns can then move to V and back to I to complete the basic phrase. In the coming chapters, we will let principles of contrapuntal writing continue to guide our compositional choices as we add more harmonies to our musical palette.

EXAMPLE 12.24: Basic phrase model T–D–T



Did You Know?

The melody that we know as "My Country, 'Tis of Thee," or "America," is also sung in England as "God Save the Queen" (or "King," depending on the current monarch). The origin of the melody is a mystery. It was first published in England in 1744, and became popular after a version of the song with words by Thomas Arne was performed in the Drury Lane and Covent Garden Theaters in London the following year. Arne's lyrics rallied support for King George II and decried the Scots, led by "Bonnie Prince Charlie," George's Stuart rival for the throne. Both Beethoven (see anthology) and Haydn incorporated the melody into their own compositions.

Several different politically oriented lyrics were set to this tune in the American colonies and in the early days after the Revolution. The text beginning "My country, 'tis of thee" was written by Samuel Francis Smith, and was first performed with the tune on July 4, 1831. On August 28, 1963, Martin Luther King quoted Smith's lyrics in his "I have a dream" speech from the steps of the Lincoln Memorial, as he called

on the nation to “let freedom ring.”

TERMS YOU SHOULD KNOW

- basic phrase (T–D–T)
- cadence
  - half (HC)
  - imperfect authentic (IAC)
    - contrapuntal IAC
    - strong IAC
  - perfect authentic (PAC)
- contextual analysis
- contrary octaves or fifths
- dominant area
- doubling
- harmonic rhythm
- keyboard spacing
- parallel octaves or fifths
- resolution
- SATB
  - soprano
  - alto
  - tenor
  - bass
- spacing
- tendency tones
- texture
  - contrapuntal
  - homophonic
  - melody and accompaniment
- tonic area
- tonic closure
- vocal range
- voice crossing

QUESTIONS FOR REVIEW

1. What elements make up the basic phrase? Name and define the possible cadences with which the phrase might conclude.
2. How do cadences differ in their tonal strength? How does a contrapuntal IAC differ from a strong IAC?
3. In general, how are stems used to show voice parts in an SATB setting? Which stems go up and which go down?
3. What is the standard range for soprano voices? alto? tenor? bass? When can you exceed these ranges?
4. What are some guidelines that govern spacing between adjacent voices in SATB settings? How does this differ from keyboard spacing?
5. What chord member is usually doubled in a triad in root position? in first inversion? in second inversion? What might influence you to double a different note?
6. Within the dominant area, how do you treat the leading tone when doubling? when resolving? What must you remember about the seventh scale degree in minor keys?
7. What principles of species counterpoint come into play when you approach perfect fifths or octaves?
8. What are the steps for harmonizing a folk melody?
9. How is an SATB harmonization converted into a keyboard accompaniment?
10. In music for your own instrument, find at least one example of each cadence type considered in this chapter.

Know It? Show It!

Focus by working through the tutorials.

Learn with InQuizitive.

Apply what you've learned to complete the workbook assignments.

13 Dominant Sevenths, the Predominant Area, and Chorale Harmonization

Outline

Writing V^7 and its inversions
- Resolving the leading tone and chordal seventh
- Approaching perfect intervals

Expanding the basic phrase: T–PD–D–T
- Predominant function: Subdominant and supertonic chords
- Voice-leading from predominant to dominant
- Predominant seventh chords
- Harmonic function and principles of progression

Realizing figured bass

Harmonizing chorale melodies
- Soprano-bass counterpoint and chord choice
- Completing the inner voices

Overview

In this chapter, we add sevenths to dominant chords, and expand the basic phrase model to include predominant harmonies: T–PD–D–T. We learn how to resolve dominant sevenths and to connect the predominant and dominant areas in SATB style. Then we apply this knowledge to realize a figured bass and harmonize a

chorale melody.

Repertoire

Johann Sebastian Bach

- "Ach Gott, vom Himmel sieh' darein" ("O God, Look Down on Us from Heaven," Chorale No. 253)
- "Aus meines Herzens Grunde" ("From My Inmost Heart," Chorale No. 1)

Arcangelo Corelli, Sonata in D Minor, Op. 4, No. 8, Preludio

Joseph Haydn, Piano Sonata No. 9 in F Major, mvt. 3

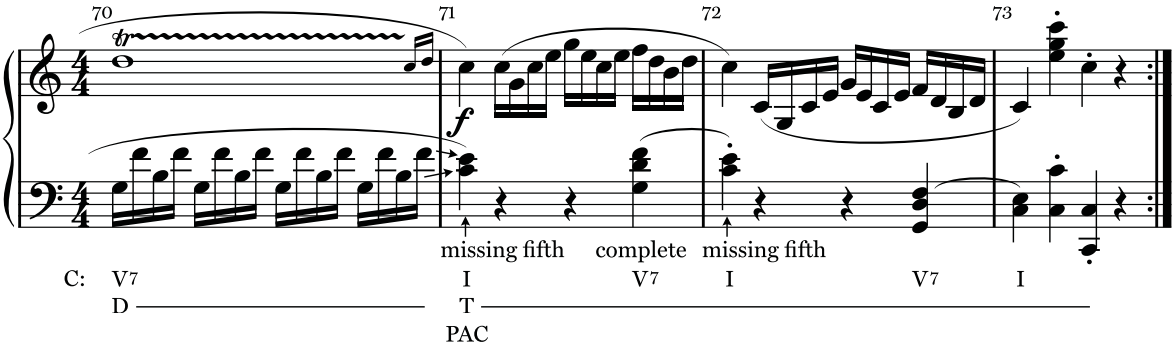
Wolfgang Amadeus Mozart

- Piano Sonata in C Major, K. 545, mvt. 1
- "Voi, che sapete" ("You who know"), from *The Marriage of Figaro*

Writing V^7 and Its Inversions

Listen to Example 13.1, the concluding measures of a Mozart sonata. Here, the dramatic trill in the right hand of measure 70 signals the end of the final phrase, with a V^7–I perfect authentic cadence—an even stronger cadence than V–I. The remaining measures reiterate the V^7–I motion twice more with cadential flourishes, expanding the final tonic harmony and bringing this movement to an exuberant end.

EXAMPLE 13.1: Mozart, Piano Sonata in C Major, mvt. 1, mm. 70–73



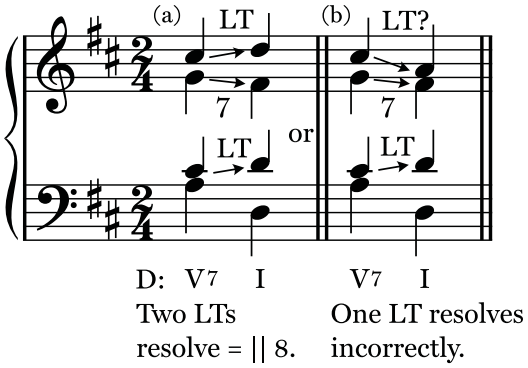
Resolving the Leading Tone and Chordal Seventh

When you add a seventh to the dominant chord, as in measure 70 (G-B-D-F), two new voice-leading considerations arise. First, the chordal seventh (scale degree $\hat{4}$; here, F4 in the left hand) creates a dissonance with the chord's root (G3); in common-practice style, it almost always resolves down by step—as here, F4 to E4. Second, as we know, the leading tone, $\hat{7}$, resolves up to $\hat{1}$.

KEY CONCEPT When V7 moves to I, two tendency tones resolve stepwise: the chordal seventh resolves down (4̂–3̂), and the leading tone resolves up (7̂–1̂). When 7̂ and 4̂ are voiced as a d5, they contract inward to a third; when 4̂ and 7̂ are arranged as an A4, they expand outward to a sixth.

When resolving V7 to I, you already know not to double the leading tone in the dominant harmony, because of its function as a tendency tone. Example 13.2 illustrates the two voice-leading problems that would result: either (a) both leading tones (C♯) will resolve correctly, resulting in parallel octaves (labeled ||8); or (b) one of the leading tones will resolve incorrectly.

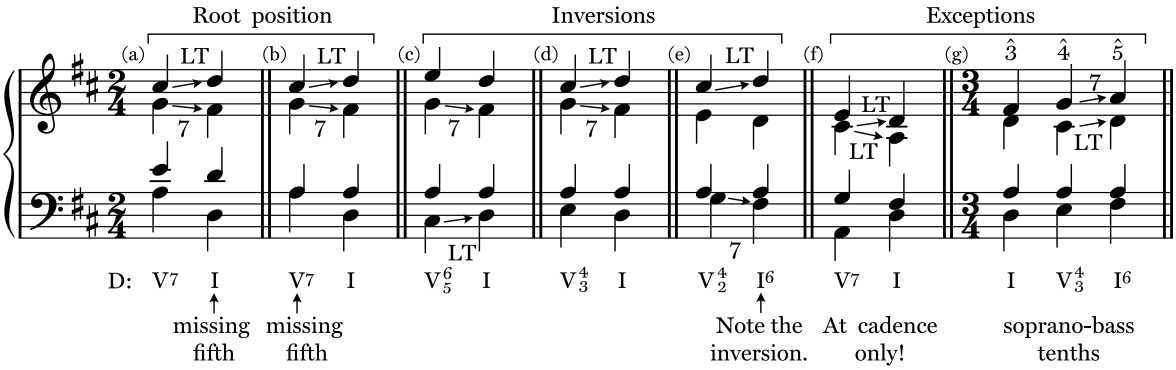
EXAMPLE 13.2: Voice-leading problems caused by incorrect doubling



Parallel fifths can also easily arise. A way to avoid this is to make one chord incomplete (omit the fifth); Mozart's solution in measures 71–73 is to leave out the fifth of the tonic triad on the downbeat of each measure. Example 13.3 shows the correct resolution of the tendency tones for V7–I in four voices. For an incomplete I chord, write three roots and one third (part a). For

an incomplete V^7 chord, double the root and omit the fifth (part b). When V^7 is inverted, all four voices of the seventh chord should be present (parts c, d, and e).

EXAMPLE 13.3: SATB resolutions of V^7 to I



Although V^7 may appear in any inversion, a root-position V^7 creates the strongest progression, and V^6_5 the next strongest. Use second and third inversions when you want to write weaker dominants—for example, to expand the tonic area at the beginning of a phrase. Part (e) shows the only correct resolution of V^4_2: to a I^6. Since the chordal seventh ($\hat{4}$) is in the bass, its resolution down to $\hat{3}$ creates a first-inversion tonic triad.

Two common "exceptions" to these guidelines are given in parts (f) and (g).

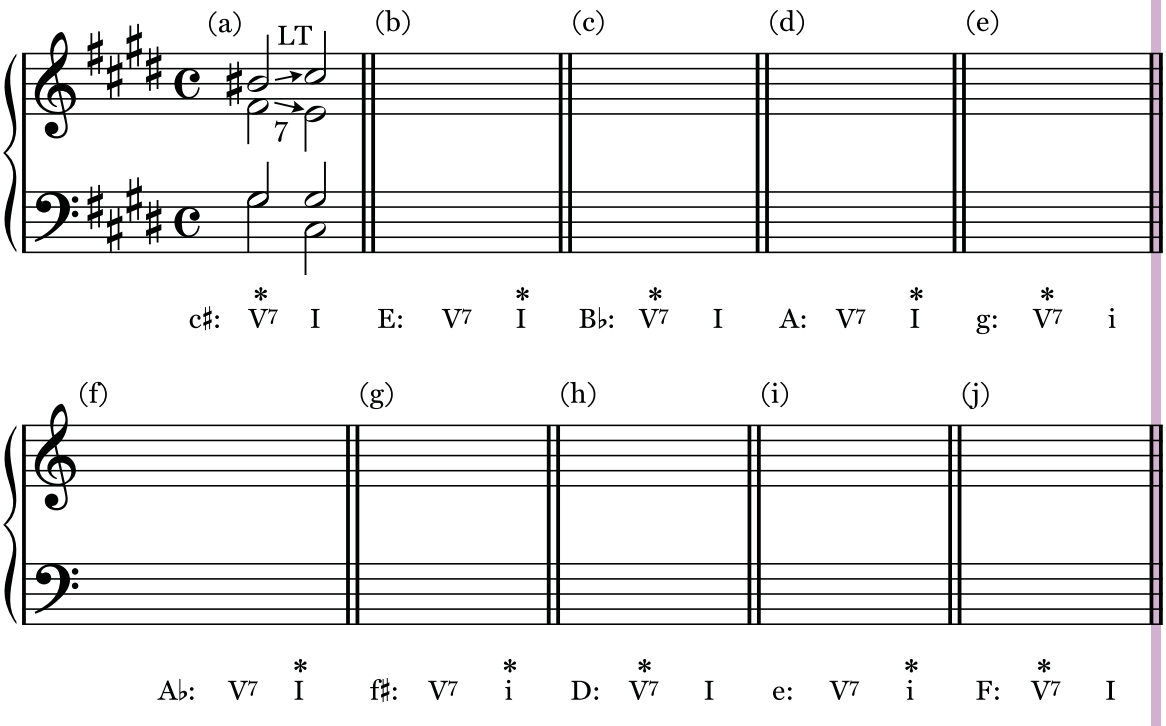
- In part (f), $\hat{7}$ (C♯) does not resolve to 1 but instead skips down to $\hat{5}$ to produce a complete tonic triad. Use this type of resolution only at a cadence where complete chords are desired and only when $\hat{7}$ appears in an inner voice. (It works in part because we hear the $\hat{7}$ in the alto resolving up to $\hat{1}$ in the soprano.)
- In part (g), V^4_3 functions as a passing chord between I and I^6, with the soprano and bass moving in parallel tenths—a

common expansion strategy for the tonic area. The contrapuntal motion of the rising parallel tenths overrides the tendency of the chordal seventh to resolve down. (Chapter 14 will delve further into tonic expansions from I to I^6.)

Try it #1

Provide a key signature and SATB voice parts (in half notes) for each root-position V^7–I (or V^7–i). Where a harmony is marked with an asterisk, write an incomplete chord (omit the fifth). Draw arrows to show the resolution of the leading tone up and chordal seventh down.

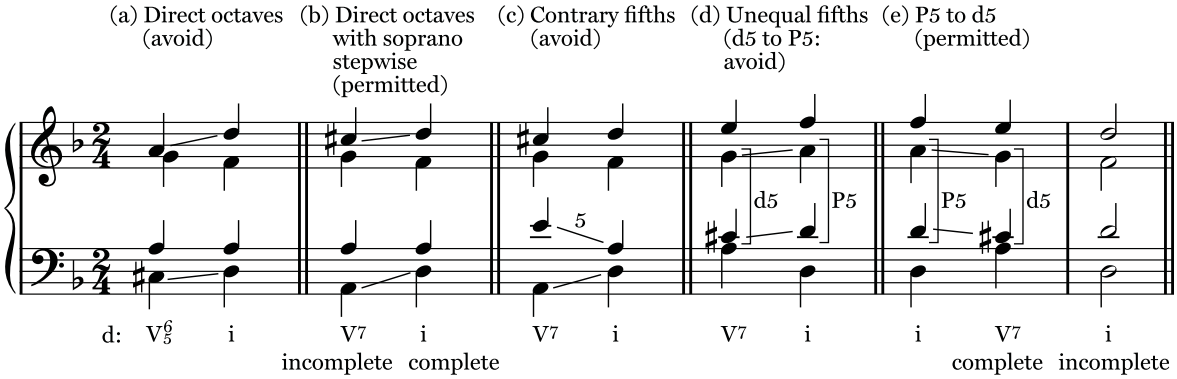
Show answers



Approaching Perfect Intervals

When you resolve dominant sevenths in SATB style, watch for the voice-leading problems shown in Example 13.4a, c, and d. To avoid them, you could change a chord's doubling or spacing, or revise the soprano line to create stepwise motion into the octave or fifth. A new concern with the V7 chord is created by the d5 or A4 between scale degrees ♯7 and ♯4, as shown in parts (d) and (e).

EXAMPLE 13.4: Resolving the V7: Motion into perfect intervals



Example 13.4 summarizes three voice-leading problems that can arise when resolving the dominant seventh chord.

- **Direct octaves and fifths** are avoided in the outer voices (part a), but allowed in the inner voices, or in any voice paired with a *stepwise* soprano line (part b).
- Motion from one perfect interval to another of the same size, whether the voices move in the same or opposite directions–such as **contrary octaves and fifths**–are also avoided (part c).
- **Unequal fifths (d5 to P5)**: Similar motion from a d5 to a P5 (part d) violates the proper voice-leading of tendency tones, since the d5 normally contracts inward to a third. An

exception is when the outer voices move in parallel tenths (as in Example 13.3g). Motion from P5 to d5 is perfectly acceptable, however, since no tendency tone's resolution is thwarted (part e).

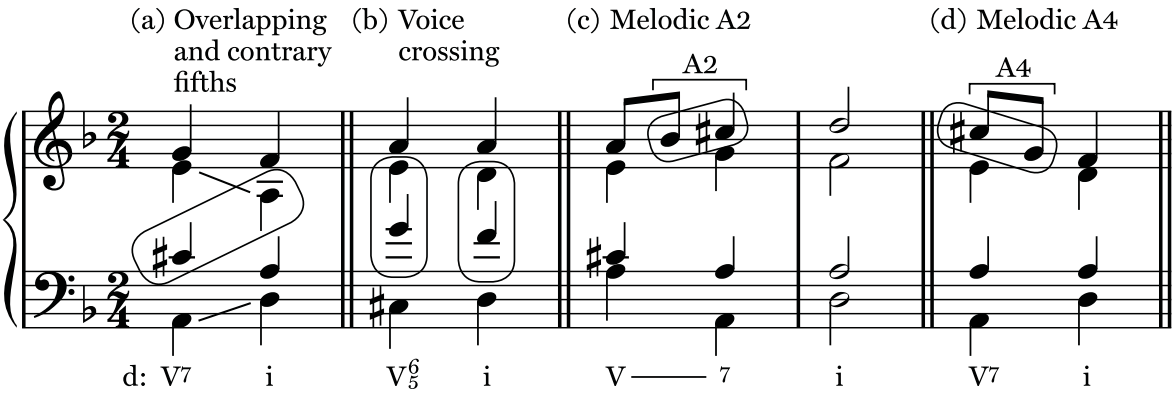
SUMMARY

When writing in common-practice style, double-check the voice-leading on the approach to any P5 or P8. Consistent with principles of species counterpoint, you should avoid

1. parallel octaves or fifths;
2. direct octaves or fifths—similar motion into a P5 or P8 between the soprano and bass (unless the soprano moves by step);
3. contrary octaves or fifths;
4. unequal fifths—motion from d5 to P5, especially between the soprano and bass (unless these outer voices move in parallel tenths).

Also, avoid the errors of overlapping and voice crossing illustrated in Example 13.5 (parts a and b), which violate the principle of independence of lines. Parts (c) and (d) are a reminder of one last voice-leading principle that should be familiar from species counterpoint: avoid writing melodic augmented or diminished intervals, which are difficult to sing in tune. A2s arise in minor keys between ♭$\hat{6}$ and $\hat{7}$, d5s and A4s between $\hat{7}$ and $\hat{4}$ in either major or minor.

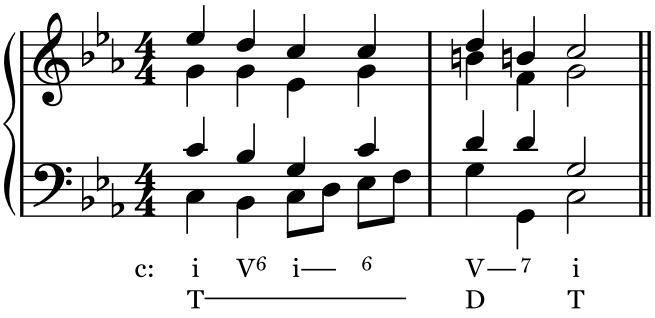
EXAMPLE 13.5: Some voice-leading problems to avoid

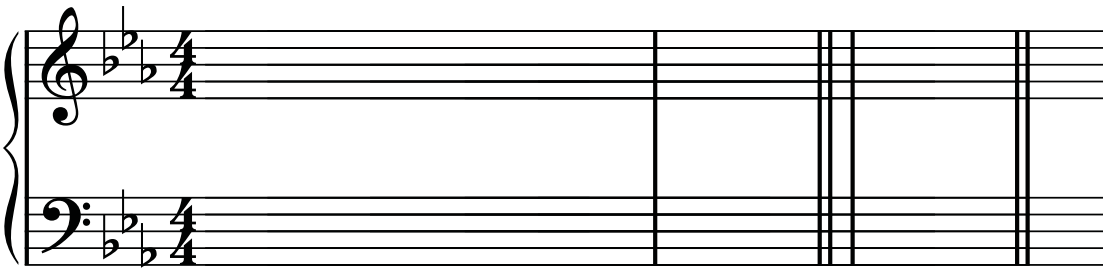


Try it #2

Check your understanding of voice-leading guidelines by examining the chorale phrase below. Sing or play through the phrase, circle and label the (numerous) mistakes, and then rewrite the phrase with correct voice-leading.

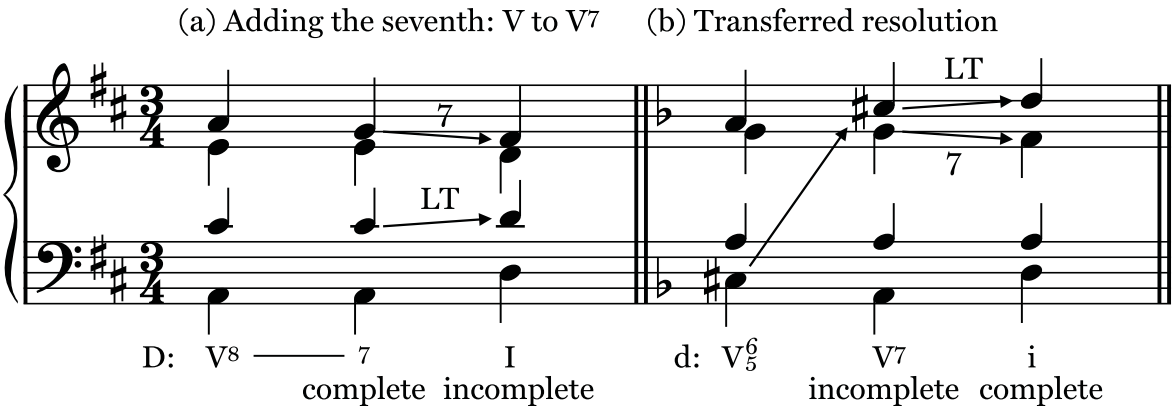
Show answers





When you write harmonic progressions, you may include more than one dominant chord in a row (Example 13.6) in different inversions and spacing, to maintain musical interest. Place the strongest dominant chord (usually root-position V^7) just before the resolution to tonic harmony. When V moves to V^7 (part a), the added seventh often acts like a passing tone, creating $^{8-7}$ motion above the bass (labeled V^{8-7}). When you extend the harmony by changing inversion (part b), a tendency tone (C♯) may move from one voice to another before it resolves; this is called a **transferred resolution**.

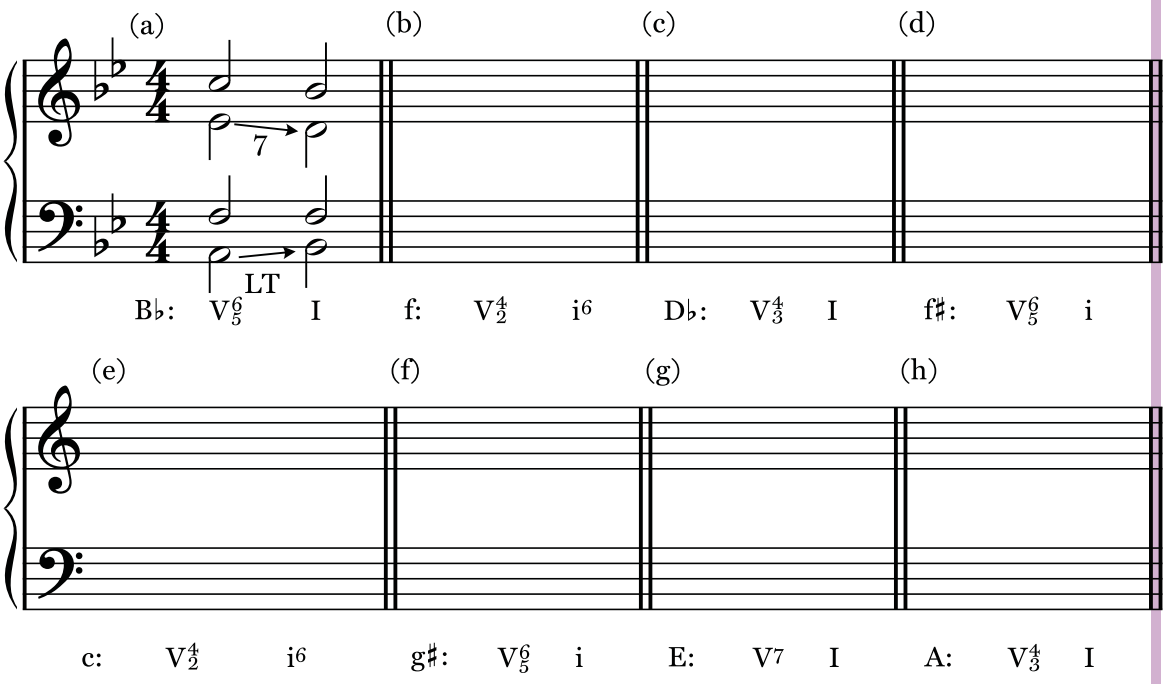
EXAMPLE 13.6: Extensions of dominant harmony



Try it #3

Write the following progressions in SATB voicing with half notes. Provide the appropriate key signatures, and add accidentals as needed. Draw arrows to show the resolution of leading tones up and chordal sevenths down.

Show answers

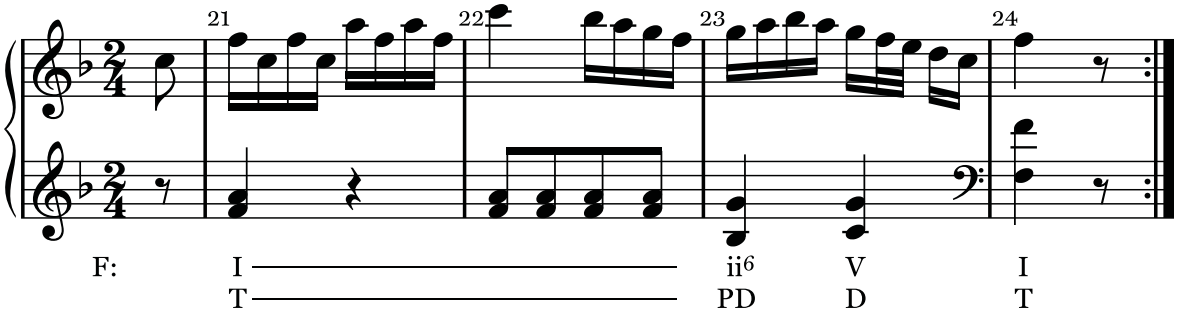

(a)
(b)
(c)
(d)
7
LT
B♭: V$^6_5$ I
f: V$^4_2$ i^6
D♭: V$^4_3$ I
f♯: V$^6_5$ i
(e)
(f)
(g)
(h)
c: V$^4_2$ i^6
g♯: V$^6_5$ i
E: V^7 I
A: V$^4_3$ I

Expanding the Basic Phrase: T–PD–D–T

Predominant Function: Subdominant and Supertonic Chords

Having considered the D–T motion that completes the basic phrase, we now turn to the tonal area that typically precedes the dominant: the predominant area (PD). We will examine a number of predominant chords in future chapters, but for now will focus on the subdominant triad and supertonic triads and sevenths—any of which may lead to V or V^7. In Example 13.7, the tonic area is exapanded for two measures by repetition and arpeggiation. It moves to a ii^6 in the penultimate measure to prepare the PAC.

EXAMPLE 13.7: Haydn, Piano Sonata in F major, mvt. 3, mm. 21–24



KEY CONCEPT Predominant harmonies—ii and IV (and their minor-key equivalents)—are so named because they lead to the dominant. Predominant triads share scale degrees $\hat{4}$ and $\hat{6}$.

The predominant area (sometimes called the "dominant preparation area" or "subdominant area") expands the basic phrase model to four parts: T–PD–D–T. This type of phrase is even more common than T–D–T, and its many possible variations shape most of common-practice tonal music. You should memorize the chord progressions employed in each functional area–to serve as a handy template for choosing chords when you write your own progressions, harmonize a melody, or compose music on your own. Following are typical Roman numerals for the T–PD–D–T basic phrase.

- In major keys: I ——— (IV, ii^6, or ii) —— (V or V^7) —— I

  T ——— PD ——— D ——— T

- In minor keys: i ——— (iv or $ii^{\circ 6}$) —— (V or V^7) —— i

  T ——— PD ——— D ——— T

In minor keys, the diminished triad ii°–like vii° in major keys–generally appears in first inversion. Remember that the tonic area is often expanded, so that T forms the longest part of the phrase; the concluding PD–D–T will occur in closer succession, at or near the final cadence.

KEY CONCEPT When two predominant harmonies appear in succession before moving to V, they do so in a falling-third root progression: IV to ii (and not the other way around).

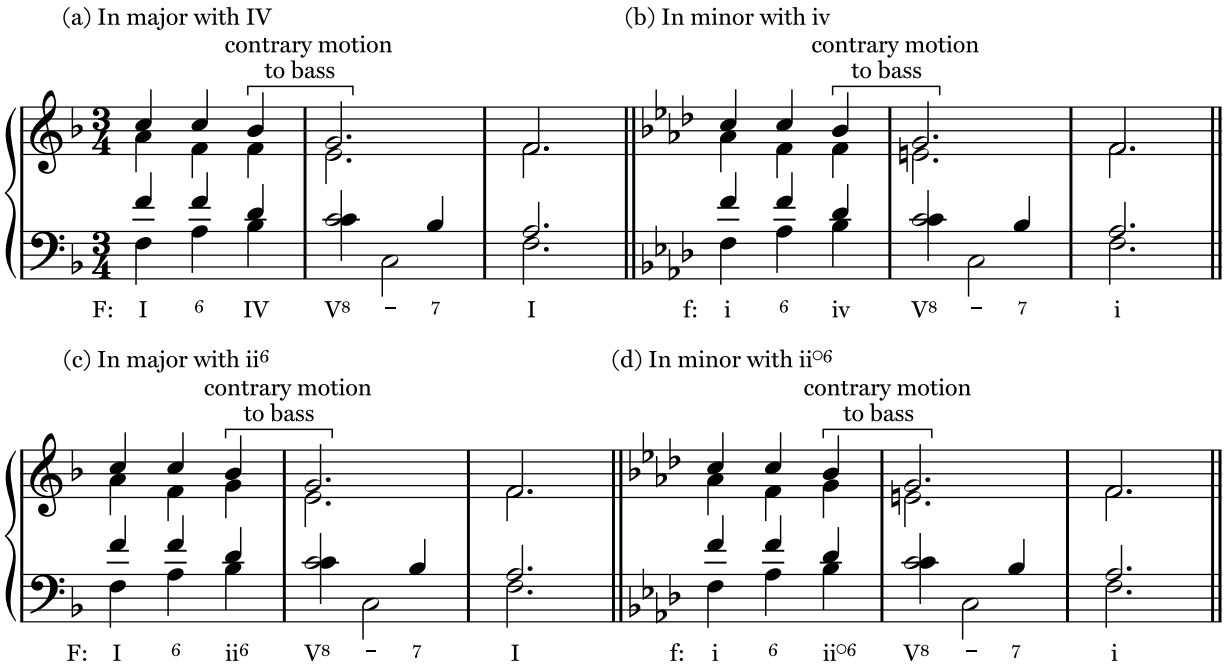
Voice-Leading from Predominant to Dominant

Example 13.8 illustrates how the predominant and dominant connect in SATB texture. The same progression appears in parts (a) and (c), but with IV in (a) and ii^6 in (c). These two chords differ by only one note (here, F or G in the alto) and can

substitute for each other: they both have $\hat{4}$ in the bass, which accounts in part for the frequency with which the ii chord appears in first inversion and for the doubling in the ii^6—usually $\hat{4}$, as here. In both progressions (a) and (c), when the predominant moves to dominant, all three of the upper voices move down to the closest possible chord tone, while the bass moves up by step from $\hat{4}$ to $\hat{5}$. In minor keys, iv is minor (part b) and ii$^{\circ 6}$ diminished (part d). For ii$^{\circ 6}$, the normal doubling is the third of the chord, so that the dissonant interval (G-D♭) is not emphasized.

EXAMPLE 13.8: Predominant to dominant: Upper voices in contrary motion to the bass

(a-b) (c-d)


(a) In major with IV
contrary motion to bass
F: I 6 IV V8 – 7 I
(b) In minor with iv
contrary motion to bass
f: i 6 iv V8 – 7 i
(c) In major with ii6
contrary motion to bass
F: I 6 ii6 V8 – 7 I
(d) In minor with ii°6
contrary motion to bass
f: i 6 ii°6 V8 – 7 i

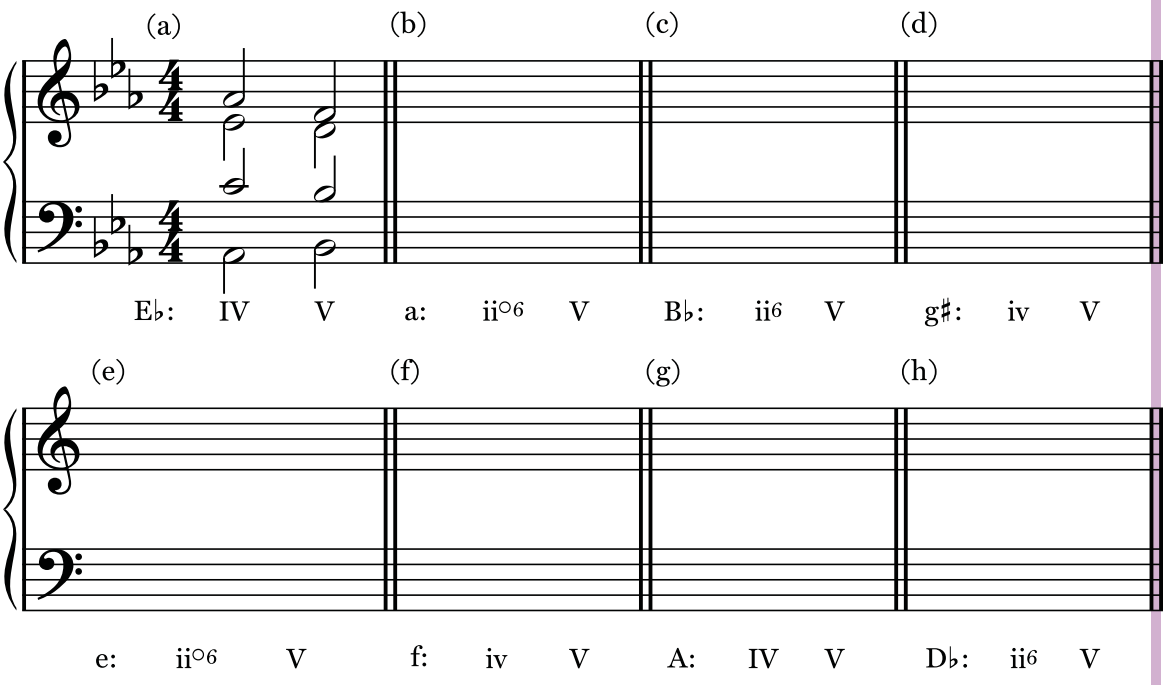
KEY CONCEPT When root-position IV moves to root-position V, write the upper voices in contrary motion with the bass to avoid parallel fifths or octaves.

Try it #4

Try it #4

Write the following progressions in SATB voicing, with half notes. Provide the appropriate key signatures, and add accidentals as needed. Move the upper three voices in contrary motion to the bass where possible.

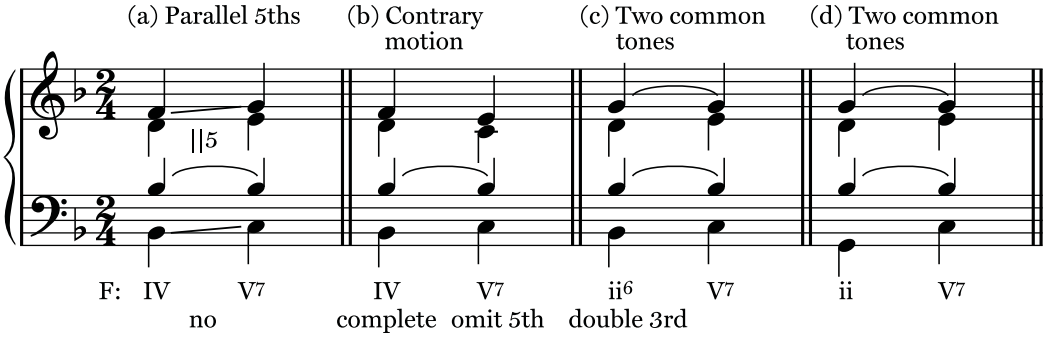
Show answers



When the predominant moves to a V7 chord, additional voice-leading factors arise. Among the most important is how to prepare the chordal seventh—a dissonance that should be approached by common tone or step. Preparation by common tone is possible because both predominants include $\hat{4}$ (the seventh of V7); Example 13.9 retains this pitch in the tenor (B♭). When IV moves to V7, move the upper voices in contrary motion to the stepwise bass; otherwise parallel fifths will result (part a). You may omit the fifth in the V7, as in part (b). If you want a

complete V7, choose a ii6 or ii chord as predominant; this chord allows for two common tones with V7 (parts c and d, here B♭ and G).

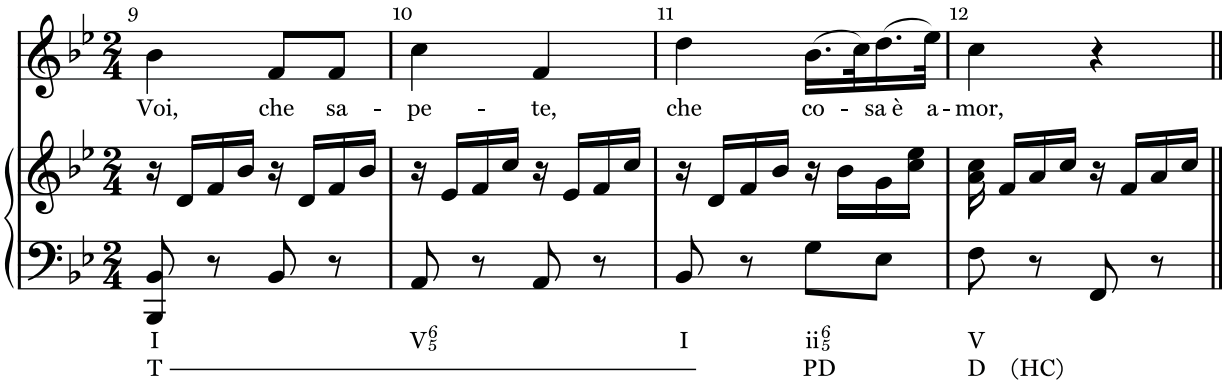
EXAMPLE 13.9: Predominant to V7: Preparation of the chordal seventh



Predominant Seventh Chords

Thus far, the only seventh chord included in the basic phrase has been the dominant seventh, but you may also find predominant sevenths—like the one in measure 11 of Example 13.10.

EXAMPLE 13.10: Mozart, "Voi, che sapete," mm. 9–12



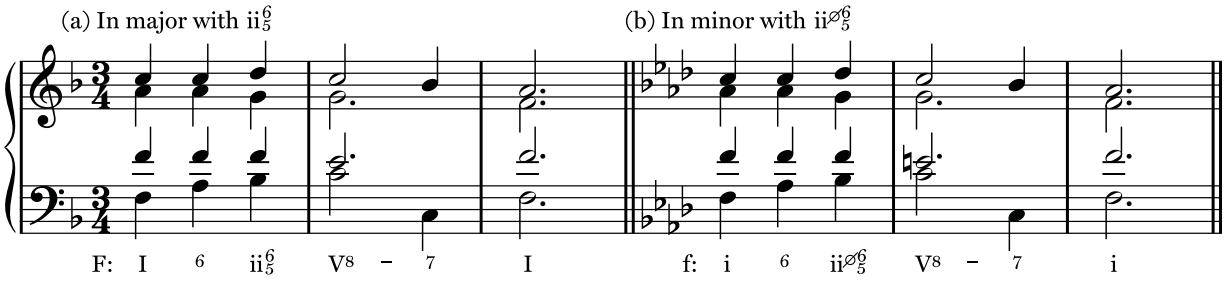
Translation: You who know what love is.

Although any predominant chord may include a seventh, ii^{7} and ii^{ø7} and their inversions–especially ii$^{6}_{5}$ (in minor, ii$^{ø6}_{5}$), as in the Mozart excerpt–are the most common.

A predominant seventh chord should be complete whether in root position or in inversion (unless it appears in a sequence, as we will see in Chapter 19). And the usual guidelines for treating the dissonance still apply: the chordal seventh should be prepared by common tone or step, and should resolve down by step.

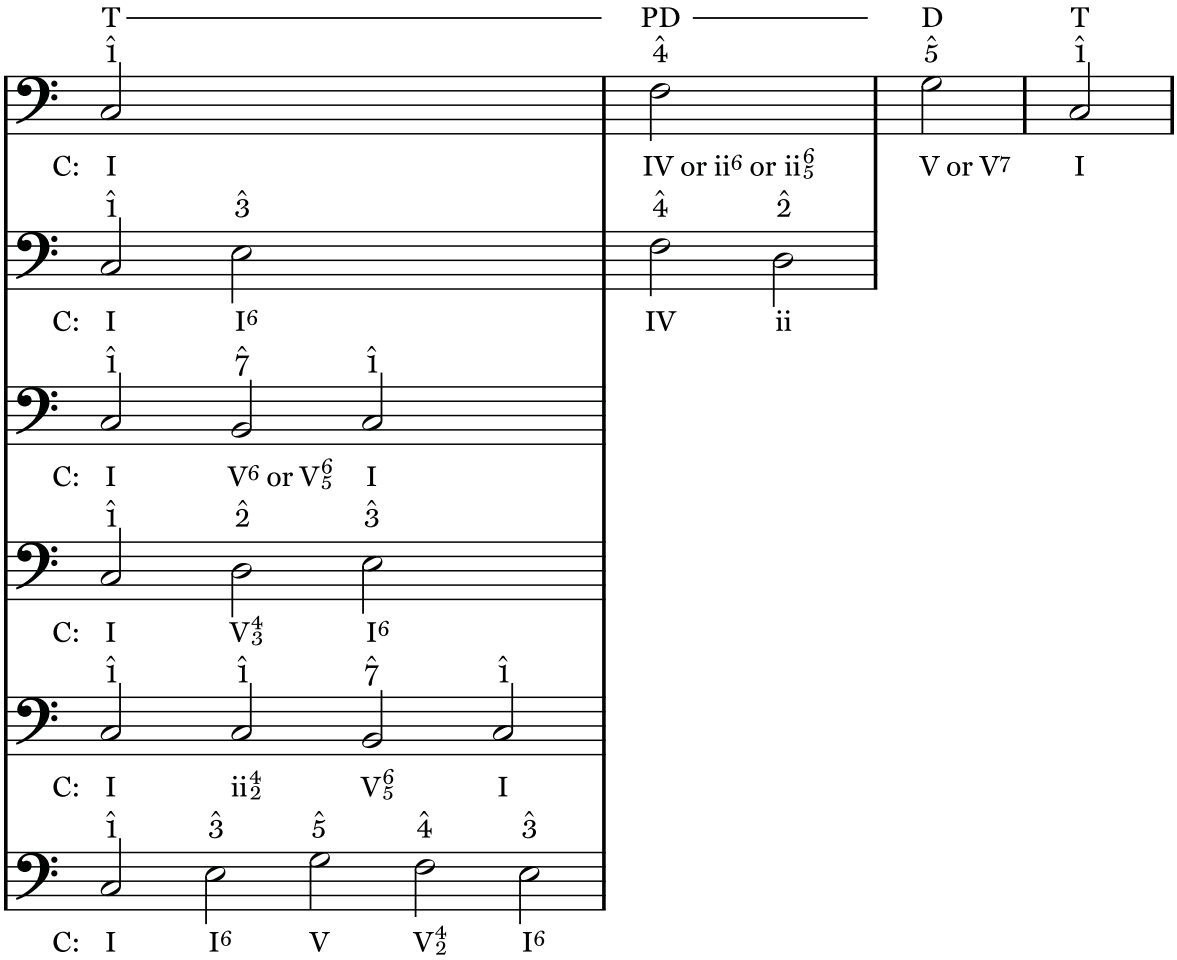
Example 13.11 is a variant of Example 13.8c and d, substituting a ii$^{6}_{5}$ in place of the ii^{6}. Here, two voices move in contrary motion to the bass from ii$^{6}_{5}$ to V, with $\hat{2}$ (G) held as a common tone. Within the ii$^{6}_{5}$ chord, its chordal seventh (F, in the tenor) is prepared by common tone with the preceding tonic, and resolves down by step. Other predominant sevenths are possible as well, as in the progression I–ii$^{4}_{2}$–V$^{6}_{5}$–I.

EXAMPLE 13.11: Writing a predominant seventh chord



Harmonic Function and Principles of Progression

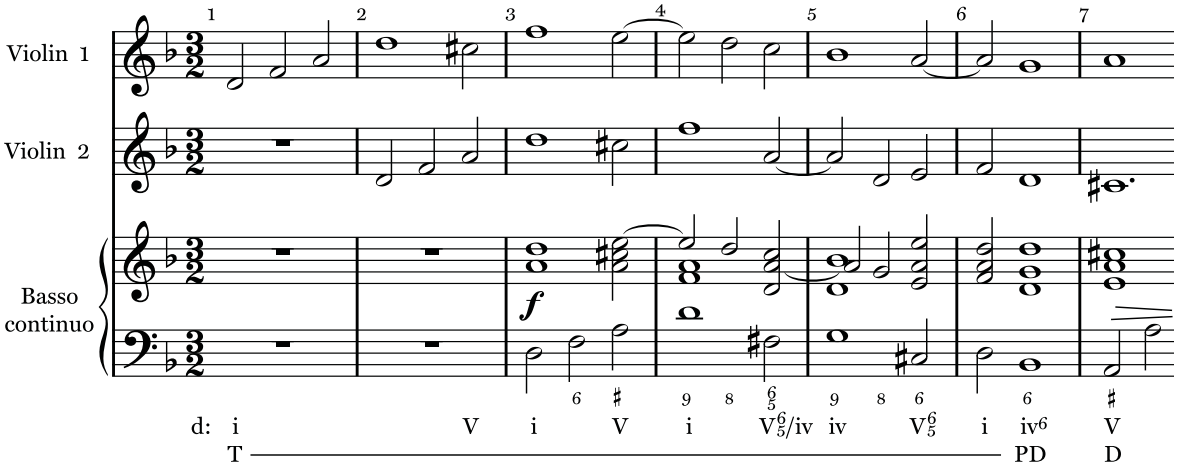
Now that the phrase model T–PD–D–T is complete, we have a variety of chord progressions to choose from. One way to think about these progressions is as a combination of bass-line patterns paired with the harmonies we have studied so far: I, ii, IV, and V (in minor i, ii°, iv, V). Example 13.12 shows the various chord choices available at this stage of our studies—organized by functional category, T–PD–D–T—to expand the basic phrase model.

EXAMPLE 13.12: Chord choices from the basic phrase model

In each functional category (T, PD, D, or T), choose a progression from the measures below it. For example, the tonic area in a phrase might be expanded by bass-line neighboring harmonies I–V^{6}–I or I–V$^{6}_{5}$–I, as well as bass-line passing harmonies like I–V$^{4}_{2}$–I^{6}. A bass-line pattern of $\hat{1}$–$\hat{1}$–$\hat{7}$–$\hat{1}$ can be beautifully harmonized with the basic-phrase pattern I–ii$^{4}_{2}$–V$^{6}_{5}$–I. Following the tonic expansion, conclude the phrase with the PD–D–T harmonies of your choice.

Realizing Figured Bass

In the Baroque and Classical eras, performers on keyboards, lutes, and other harmony instruments were expected to improvise harmonic progressions from a given bass line—to **realize** a figured bass, like the one shown in Example 13.13.

EXAMPLE 13.13: Corelli, Preludio, from Sonata in D Minor, mm. 1–7



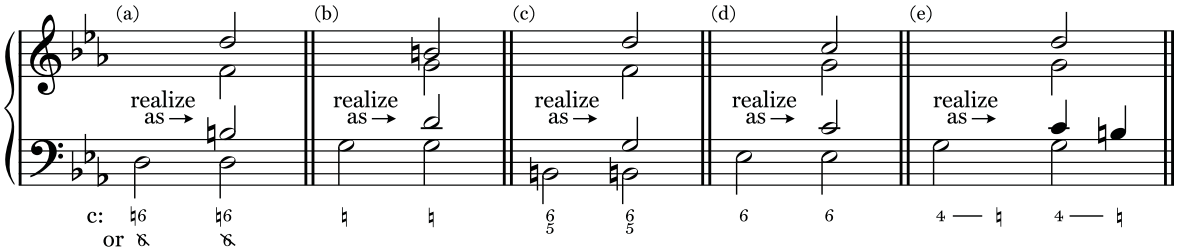
Figured bass was also used to teach the principles of harmony and voice-leading: players would practice standard figures in various keys to become familiar with conventional chord sequences and the usual voice-leading possibilities.

Realizing a figured bass is still extremely useful today; you can demonstrate your ability to link chords as musically as possible within the guidelines of common-practice style, without having to make the chord choices yourself. You also internalize principles of voice-leading and dissonance treatment that can inform your own performance interpretation and composition. For these reasons, we will use

figured bass as well as Roman numerals (which came into use only at the end of the eighteenth century) in discussions of harmony and voice-leading.

A few basic figures are realized in Example 13.14. Melodic embellishing tones other than suspensions are not indicated in the figures because they are not part of the main harmonic framework. Musicians realizing the bass would be expected to add them according to their taste.

EXAMPLE 13.14: Realization of common figures



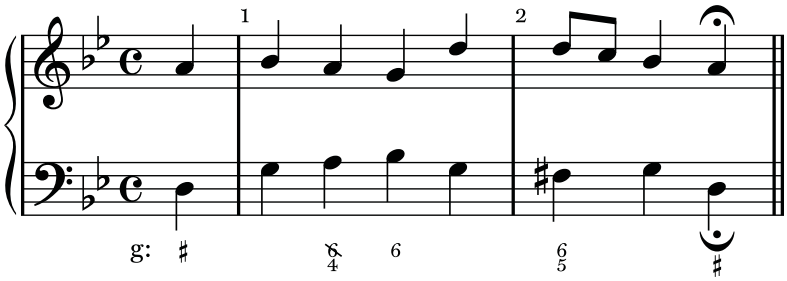
KEY CONCEPT When realizing a figured bass:

- Sing the given line(s) with scale-degree numbers or solfège.
- If there is an accidental next to a number, raise or lower the pitch that lies that interval above the bass by one chromatic half step; if there's a slash through a number, raise the pitch a half step (part a).
- If you see an accidental by itself, raise or lower the third above the bass (part b)—not necessarily the third of the chord.
- Place pitches above the bass in an appropriate octave (of your choosing) based on the intervals indicated in the figures (part c).
- Use pitches diatonic in the key (part d), unless an accidental is specified.

- If there is a dash between two numbers (or between a number and an accidental), those intervals should be in the same voice-leading strand, as in a 4–3 suspension (part e).
- Remember that accidentals in the figure apply only to that single chord, and that figured bass does not list *all* intervals above the bass—some, like octaves and thirds, may be implied.
- Follow doubling and voice-leading guidelines for the style when voicing or connecting chords; these are not specified by the figures.

The melody and bass of one of Bach's chorale hamonizations is given in Example 13.15 (the melody was written in 1524 by German Protestant reformer Martin Luther), with the figured bass below.

EXAMPLE 13.15: Bach, "Ach Gott, vom Himmel sieh' darein," mm. 1–2, melody and figured bass (adapted)

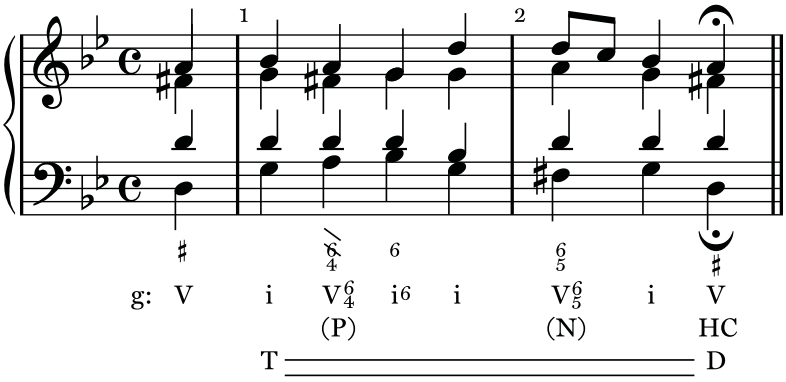


To realize the figured bass, first sing through the soprano and bass lines on solfège or scale-degree numbers, and examine the counterpoint. This phrase ends on a half cadence, and its soprano-bass counterpoint features beautiful contrary motion (and a voice exchange) in the first full measure. Now consider the figures. The ♯ below the first and last bass notes

indicates that the third above the bass is to be raised (from F to F♯)—this figure supplies the leading tone for the dominant harmonies. We will voice the opening chord in close position, since the bass line rises in the first complete measure and we need to keep the tenor in a higher register so that the bass line does not overlap its range. A good voicing for the first chord would be F♯4 in the alto and D4 in the tenor (doubling the root). The F♯ resolves up to G in measure 1, and the tenor's D remains as a common tone. (Remember that the absence of other figures implies a $\frac{5}{3}$ chord.)

The second chord of measure 1 specifies a sixth and fourth (F and D) above this bass note, and we raise the sixth to F♯ because of the slash in the figure. The figure ^{6} for the third chord implies $\frac{6}{3}$; place a sixth and third (G and D) above this pitch. Because the sixth is also the melody note (and the root of the triad), we double it in the alto by drawing stems above and below the G4. Example 13.16 shows a complete realization of this chorale phrase.

EXAMPLE 13.16: Bach, "Ach Gott, vom Himmel sieh' darein," mm. 1–2, SATB realization (adapted)



As in Example 13.15, write your Roman numeral analysis on a separate line below the figures (the figured bass is part of the

music itself, not an analysis). You will see slight variations between the figures and the Roman numeral inversion symbols, since figures also indicate chromatic alterations and may specify suspensions or other voice-leading above the bass. The contextual analysis, below the Roman numerals, shows how the tonic area may be extended by the dominant. In this example, dominant harmonies in measures 1 and 2 are inverted, which weakens their harmonic function and strengthens their contrapuntal role. Follow the bass line to see how they function: the first dominant passes between the root position and inverted tonic (P), and the second plays a neighboring role (N). (We will return to this idea in Chapter 14.)

Harmonizing Chorale Melodies

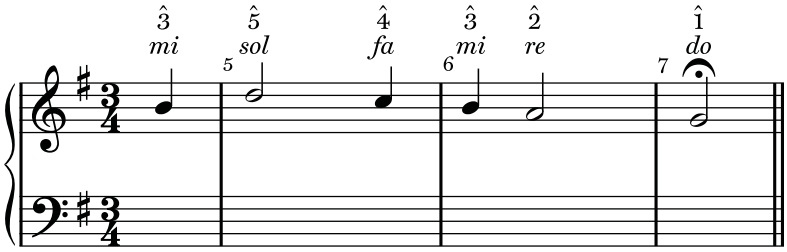
You can harmonize many chorale melodies with the tonic, dominant, and predominant harmonies discussed in this chapter. Follow the general procedure for harmonizing a melody from Chapter 11: select an appropriate cadence, and compose a bass line that makes good counterpoint with the melody. Be sure to consult Example 13.12 for T–PD–D–T progressions that will work well with the bass line. For chorale melodies, the harmonic rhythm is usually one chord per beat; if the same chord is needed for two or more beats, you might change the soprano note or bass inversion of the chord to provide melodic or harmonic variety. After selecting the harmonic progression, complete the inner parts to make an SATB setting.

Soprano-Bass Counterpoint and Chord Choice

To demonstrate, we will harmonize the melody in Example 13.17. Begin by singing through the melody on scale-degree numbers or solfège (or thinking of these): $\hat{3}$–$\hat{5}$–$\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$, or *mi–sol–fa–mi–re–do*. Use this information to plan the harmonies, with mostly an even quarter-note rhythm. Because the melody ends with $\hat{2}$–$\hat{1}$, plan a perfect authentic cadence: D3 to G2 in the bass and Roman numerals V (or V^7) to I.

Now examine the beginning of the phrase, $\hat{3}$–$\hat{5}$; you could harmonize both with a tonic triad, or with I moving to V. Choose the latter because of the anacrusis: a change of harmony over the bar line articulates the rhythm well.

EXAMPLE 13.17: Bach, "Aus meines Herzens Grunde," mm. 5–7 (melody)



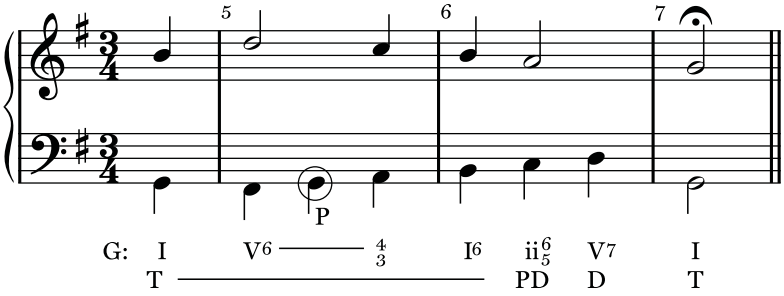
KEY CONCEPT When you write a bass line and select harmonies for a given melody, you need not work "left to right." One effective way is to start with the cadence, then go back to the beginning to write the tonic opening. Finally, fill in the middle of the phrase.

Next, write a good bass line in counterpoint with the melody—one that supports the harmonies chosen thus far, completes a good basic-phrase progression, and includes inversions to create a singable line. Beginning with the tonic harmony on the anacrusis, choose the low G2 to allow the bass line to rise in measures 5–6 in counterpoint with the soprano line. This dominant harmony could extend for all of measure 5, with the melody's $\hat{5}$–$\hat{4}$ moving to the seventh of a V^7 chord. For variety and for stepwise contrary motion with the soprano, begin with V^6 on the downbeat, moving up by step to a $\frac{4}{3}$ inversion at the end of the bar and saving the stronger root-position V for the cadence.

In measure 6, which prepares the cadence, we have an opportunity to use a predominant harmony to complete the T–PD–D–T basic phrase. Scale-degree $\hat{3}$ (B4) on the downbeat implies a tonic harmony, and $\hat{2}$ (A4) on beat 2 will support a predominant (the supertonic) as well as the dominant on the following beat. Since the melody descends by step to the cadence, we will craft a bass line that moves first in contrary motion before its cadential descent. The complete bass line (Bach's own, as it happens) is shown in Example 13.18. Roman numerals are given for one possible harmonization below the

staff.

EXAMPLE 13.18: Bach, "Aus meines Herzens Grunde," mm. 5–7 (soprano and bass)



KEY CONCEPT Write the soprano-bass counterpoint first before filling in the inner voices. Make sure both parts have singable melodic lines, and that they make good contrapuntal and harmonic sense, following the T–PD–D–T phrase model.

Completing the Inner Voices

Before adding the alto and tenor lines, scan the soprano-bass counterpoint to see whether there are places that might present special challenges (for example, places where the outer voices are particularly close together, or where they form fifths or octaves). In measure 6, we have an octave on the downbeat, followed by a chord with a seventh to prepare and resolve. For this reason, it would be good to begin part-writing near the cadence, and then fill in the beginning of the phrase.

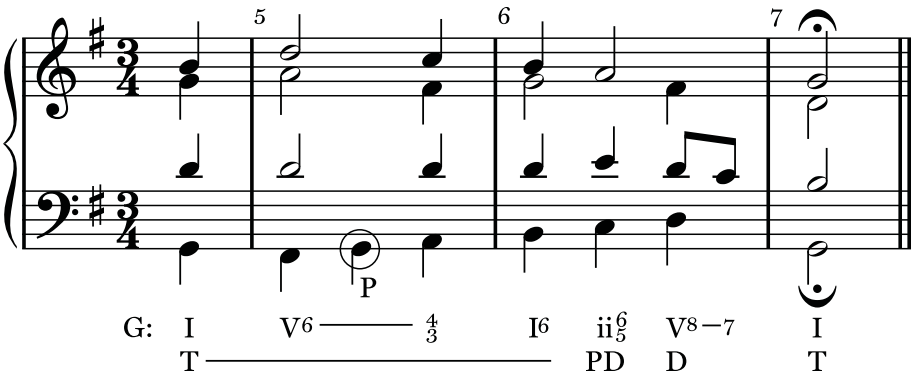
At the downbeat of measure 6, there are only two notes left to complete the I6 chord (G and D), and either voicing is possible: G3 in tenor and D4 in alto, or D4 in tenor and G4 in alto. For now, pick the higher register, to allow the voices to move downward in contrary motion with the bass if so desired.

KEY CONCEPT Before voicing the first chord in a progression, scan the soprano and bass lines for motion up or down, and plan the chord's spacing with this motion in mind. For example, if the bass moves up, place the other voices in a higher register to allow them room to move down in contrary motion.

For the second chord in measure 6, the alto G4 can remain as a common tone between the I^6 (G-B-D) and ii^6_5 (A-C-E-G) to prepare the chordal seventh. The only remaining pitch, E, is left for the tenor, moving stepwise from the downbeat in parallel tenths with the bass and contrary motion with the soprano. Now we connect the predominant and dominant areas (beats 2–3) with contrary motion against the $\hat{4}$–$\hat{5}$ bass: A remains in the soprano, and the other two voices move down.

Example 13.19 shows Bach's solution; he adds $^{8-7}$ motion above the dominant for a stepwise tenor line, which resolves down as chordal sevenths should. He also makes the final I chord a complete triad, with the alto skipping from the leading tone (F♯) down to the fifth of the tonic (D) rather than resolving upward. This is his solution in most chorales, and is a good choice for our writing as well—but only at cadences. Now listen to this harmonization of the chorale phrase.

EXAMPLE 13.19: Bach, "Aus meines Herzens Grunde," mm. 5–7 (adapted)



When you harmonize a melody or realize a figured bass, always go back and proofread your work. One of the easiest ways to do this is at a keyboard (or using the playback feature of a music notation program)—often your ear will pick out mistakes that your eye may not. Play through your work slowly, and listen and look for specific types of errors.

- Scan through once for the resolution of every tendency tone (leading tone and chordal seventh). You might want to label the tendency tones with arrows (up for leading tones, down for chordal sevenths) as a reminder.
- When writing in a minor key, be sure that ♭$\hat{7}$ is raised to make a leading tone. If it is preceded by $\hat{6}$, raise that as well; otherwise a melodic A2 will result.
- Locate each perfect fifth or octave, and check the voice-leading into and out of it for any parallel motion.
- Sing each line to yourself on scale degrees or solfège to check again for the resolution of tendency tones, for awkward leaps, and for a musical line.

SUMMARY

Keep in mind the following guidelines when connecting SATB chords.

1. Above all, write musically:
   - Listen to what you write, by playing or singing each line.

- Avoid static harmonic progressions; create interest over an unchanging harmony by changing the soprano pitch, the inversion, and/or the spacing of the chord.
- Write melodies with stepwise motion and skips between chord members; avoid large leaps (except in the bass) and augmented or diminished melodic intervals.
- Write passing or neighbor tones to create a smooth line and add melodic interest.

2. Work to achieve smooth voice-leading:
   - Resolve tendency tones correctly, and never double them.
   - If two chords share a common tone, keep that common tone in the same voice if possible.
   - Move each voice to the closest possible member of the following chord (without creating parallel perfect intervals).
   - Approach chordal sevenths by common tone or step, or from below by skip.
3. Aim for independence of the four voices:
   - Keep each voice within its own characteristic range. No pitch in one part should cross above or below that of an adjacent part—either within a single chord (voice-crossing) or between two consecutive chords (overlapping).
   - Balance parallel or similar motion with contrary and oblique motion. Avoid moving all four voices in the same direction.
   - Write in contrary or oblique motion when you approach and leave any perfect interval to avoid

parallel fifths, octaves, or unisons.

Although this chapter has focused on the simplified texture of chorales, you might be surprised to discover how many composers of different genres and eras have followed the principles for good chorale-style writing to control their use of dissonance, make harmonic choices, plan voice-leading, and compose pleasing melodies and bass lines. Such common features between musical styles will be pointed out in later chapters as they arise.

Did You Know?

Composers and performers in the Renaissance (1430–1600) did not think of chords as invertible harmonies stacked in thirds above a root as we do today. Instead, they described music by the way the intervals were prepared and resolved. At first, the interval of a seventh appeared only on the offbeats, approached by a perfect octave and resolving down by step on the next beat. Some composers of the early Baroque era (1600–1750) liked the dramatic sound made when the chordal seventh was placed in an accented position, but that treatment was not permitted in the strict style of church music, and was deemed appropriate only for theatrical or dramatic music, like opera. Over time, the seventh began to be accepted as a dissonance that could appear on the beat as a complete V^7, instead of entering as $^{8-7}$ motion. It continued to resolve down by step in common-practice tonal music, but in the twentieth century and more recent popular styles the seventh can simply be considered part of a sonority and remain unresolved.

TERMS YOU SHOULD KNOW

contrary motion
direct octaves and fifths
overlapping
predominant area
realization
tendency tones
T–PD–D–T phrase
transferred resolution
unequal fifths

QUESTIONS FOR REVIEW

1. What tendency tones in a V^7 must resolve? Do they resolve differently when the dominant appears in an inversion? If so, how? Do they resolve differently at the cadence? If so, how?
2. What principles of species counterpoint come into play when a progression approaches perfect fifths or octaves?
3. Name several chords that might appear in the predominant area of the basic phrase. Are particular inversions more typical than others? Why or why not?
4. Which is the most common predominant seventh chord (and inversion)? What principles should be followed when preparing and resolving such chords?
5. What voice-leading principle must be kept in mind when moving between root-position IV and V?
6. What are the steps for harmonizing a chorale melody?

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14 Expanding the Basic Phrase

Outline

Expanding harmonic areas with $\frac{6}{4}$ chords

- The cadential $\frac{6}{4}$
- The pedal or neighboring $\frac{6}{4}$
- The arpeggiating $\frac{6}{4}$
- The passing $\frac{6}{4}$
- The four $\frac{6}{4}$ types

Other expansions of the tonic area

- The subdominant in tonic expansions
- The dominant in tonic expansions
- Contexts for the submediant
- Embedding PD–D–T within the tonic area
- Extending the final tonic area

Overview

This chapter explores some ways the tonic, dominant, and predominant areas may be expanded within the basic phrase. We consider four types of $\frac{6}{4}$ chords and contexts for the submediant triad.

Repertoire

Johannes Brahms, V*ariations on a Theme by Haydn*
Wolfgang Amadeus Mozart
- Piano Sonata in B♭ Major, K. 333, mvt. 1
- Piano Sonata in C Major, K. 545, mvts. 1 and 2
- Piano Sonata in D Major, K. 284, mvt. 3
- Sonata for Violin and Piano, K. 296, mvt. 2

"My Country, 'Tis of Thee"
Franz Schubert, "Morgengruss" ("Morning Greeting"), from *Die schöne Müllerin* (*The Fair Maid of the Mill*)
John Philip Sousa, "The Stars and Stripes Forever"
"St. George's Windsor"
"Wayfaring Stranger" (arranged by Norman Lloyd)

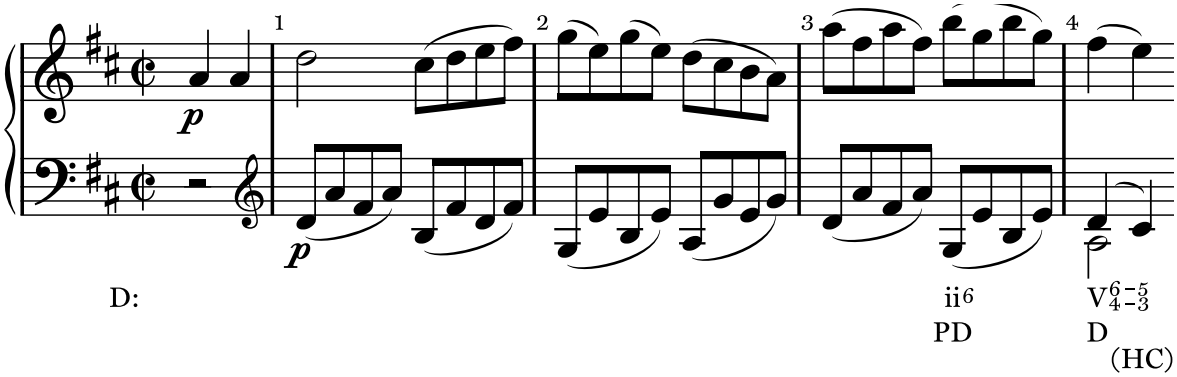
Expanding Harmonic Areas with $\frac{6}{4}$ Chords

Looking at how composers expand the basic phrase model T–PD–D–T provides valuable insight into their compositional styles and into the features that make their works uniquely beautiful. When functional areas are expanded, diatonic triads may lose their usual functions and work in quite different ways; for example, IV may no longer serve as a predominant, but instead become an extension of the tonic. A good place to begin is with $\frac{6}{4}$ chords.

The Cadential $\frac{6}{4}$

In the Classical style—the music of Mozart, for example—many cadences include a brief expansion of the dominant area by a **cadential** $\frac{6}{4}$. Listen to the opening of the third movement of Mozart's Piano Sonata in D Major (Example 14.1), which features this voice-leading chord.

EXAMPLE 14.1: Mozart, Piano Sonata in D Major, mvt. 3, mm. 1–4



In this familiar-sounding Mozart cadence (m. 4), the dominant

triad (A-C♯-E) is preceded by what appears to be a tonic harmony in second inversion, A–D–F♯. This chord, however, does not *function* as the tonic; rather, it displaces and embellishes the V chord by simultaneous 6–5 (F♯ to E) and 4–3 (D to C♯) motion above the sustained bass note A, the root of the dominant. You could think of this voice-leading like a consonant 6–5 and a dissonant 4–3 suspension (but without the suspension's preparation). Also like a suspension, the cadential $\frac{6}{4}$ is written on a strong beat and resolved on a weak beat. The F5 and D4 of Mozart's cadential $\frac{6}{4}$ are approached by step from the previous chord, a ii^{6}—standard voice-leading for this harmony.

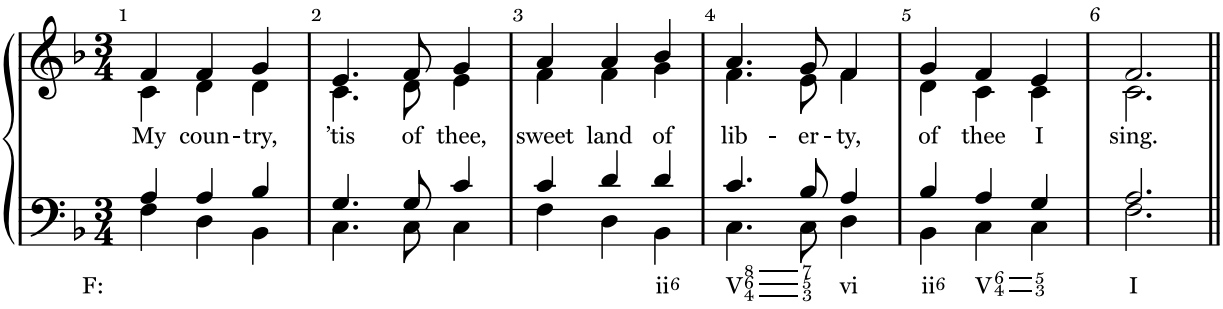
KEY CONCEPT The cadential $\frac{6}{4}$ has a dominant function, even though it is built of tones from the tonic triad. Its $\frac{6}{4}$-$\frac{5}{3}$ motion expands the dominant area of the basic phrase, with the dissonant $\frac{6}{4}$ on the strong beat and its resolution on a weaker beat. In four voices, the bass of the $\frac{6}{4}$ chord is doubled, to reinforce its dominant function.

Don't write V$\frac{6}{4}$ alone as a symbol for the cadential $\frac{6}{4}$, since that notation implies a second-inversion dominant triad. Think instead of V$\frac{6}{4}$-$\frac{5}{3}$ as a single analytical symbol that shows voice-leading above a dominant harmony. Likewise, it's best not to write I$\frac{6}{4}$ for the first chord, even though many older textbooks do; while I$\frac{6}{4}$ reflects the pitch content above the bass, it obscures the chord's dominant function and does not reflect its characteristic voice-leading. If you doubt the dominant function of the cadential $\frac{6}{4}$, try singing the chord roots as you listen to Example 14.1. Chances are, you will sing $\hat{5}$ on both beats of measure 4.

Cadential $\frac{6}{4}$s are found in many styles of tonal music. In "My Country, 'Tis of Thee" (Example 14.2), for instance, the first full phrase includes two cadential $\frac{6}{4}$s: the one marked in measure 5 moves to a decisive PAC cadence (m. 6), but the one in measure

4 resolves evasively to vi (more about this Chapter 15). Both $\frac{6}{4}$ chords double the bass's C, and both are preceded by ii^{6} chords. The $\frac{6}{4}$ in measure 4 is labeled V$^{8-7}_{6-5}_{4-3}$ to account for the octave C in the tenor moving down to the chordal seventh, B♭.

EXAMPLE 14.2: "My Country, 'Tis of Thee," mm. 1–6

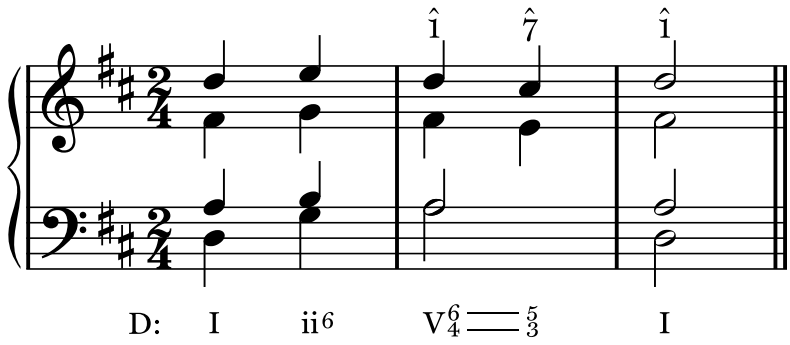


Like most embellishing chords, the cadential $\frac{6}{4}$ could be removed from the cadence without changing the general harmonic plan of the phrase, but it provides smooth voice-leading from the predominant area. Cadential $\frac{6}{4}$s are almost always preceded by a predominant harmony (as in Examples 14.1 and 14.2), rarely by the tonic harmony. For now, approach them with ii, ii^{6}, ii^{7}, or IV (in minor, ii$^{\circ 6}$, ii$^{\emptyset 7}$, or iv) or other inversions of these chords.

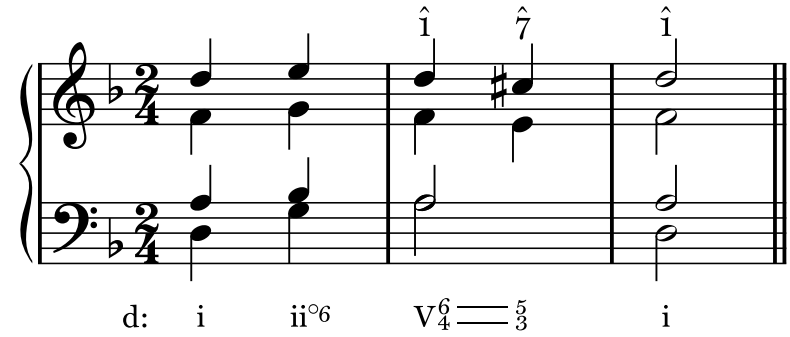
Writing Cadential $\frac{6}{4}$ Chords Typical progressions with a cadential $\frac{6}{4}$ chord are given in Example 14.3. The voice-leading for all of these is the same in the parallel minor (part b), but raise ♭$\hat{7}$ to create a leading tone in the V or V^{7}.

EXAMPLE 14.3: Resolutions of the cadential $\frac{6}{4}$

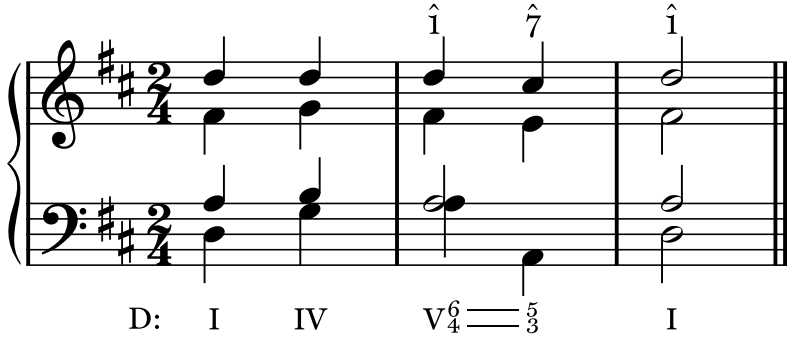
(a)



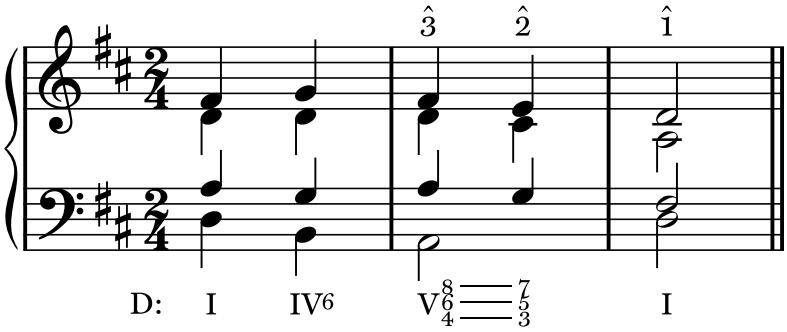
(b)



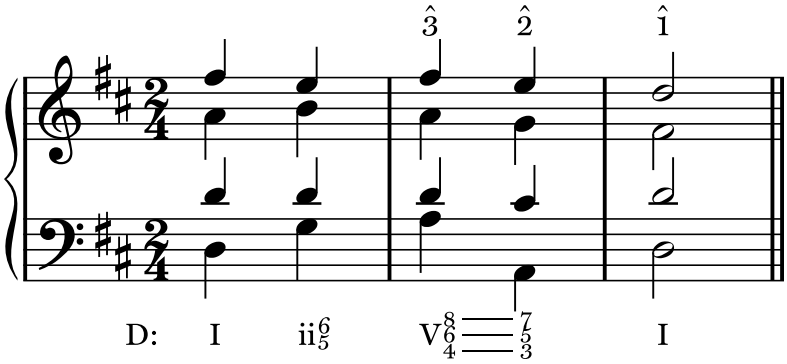
(c)



(d)



(e)



KEY CONCEPT To write a cadential $\frac{6}{4}$:

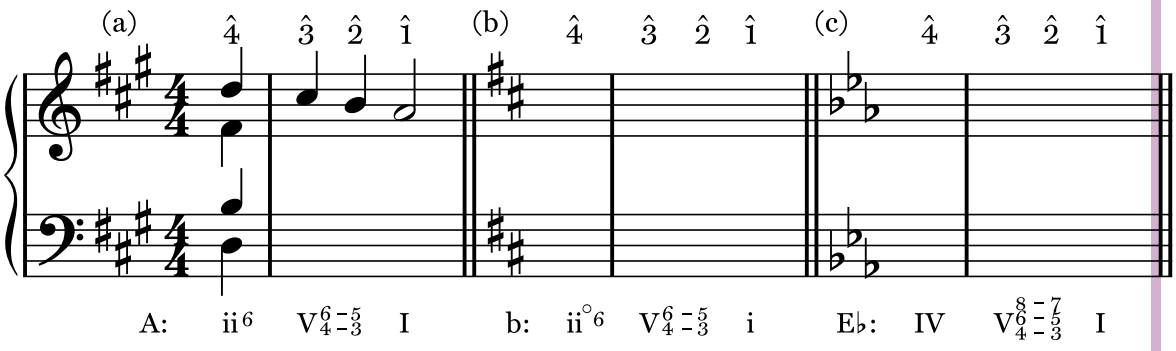
1. Always double the bass, which reinforces the dominant function. Any other doubling will result in voice-leading problems and won't be idiomatic.
2. Approach the cadential $\frac{6}{4}$ from a predominant harmony: usually ii^6, ii^7, or IV (ii$^{\circ 6}$, ii$^{\emptyset 7}$, or iv in minor) or other inversions. Keep common tones, if any, between the predominant chord and the $\frac{6}{4}$, and move other voices the shortest distance.
3. Write the $\frac{6}{4}$ chord on a strong beat in the measure; it displaces the V or V^7, which would normally occupy a strong beat. In triple meter, the cadential $\frac{6}{4}$ sometimes appears on beat 2, resolving to V or V^7 on beat 3.

4. Resolve the "suspended" tones of the $\frac{6}{4}$ downward: the sixth above the bass moves to a fifth, and the fourth moves to a third ($\frac{6}{4}$-$\frac{5}{3}$).
5. Typical soprano parts are $\hat{1}$–$\hat{7}$–$\hat{1}$ (Example 14.3a–c) or $\hat{3}$–$\hat{2}$–$\hat{1}$ (parts d and e) over the bass $\hat{5}$–$\hat{1}$, creating a PAC.
6. If the cadential $\frac{6}{4}$ resolves to a dominant seventh, the doubled bass note (in one of the upper voices) moves to the seventh of the V^7 chord ($\frac{4}{3}$), making an 8–7 motion above the bass (parts d and e).

Try it #1

Complete the authentic cadences indicated by the Roman numerals below. Write the melody notes as $\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$. Use quarter notes and, for the final chord, half notes.

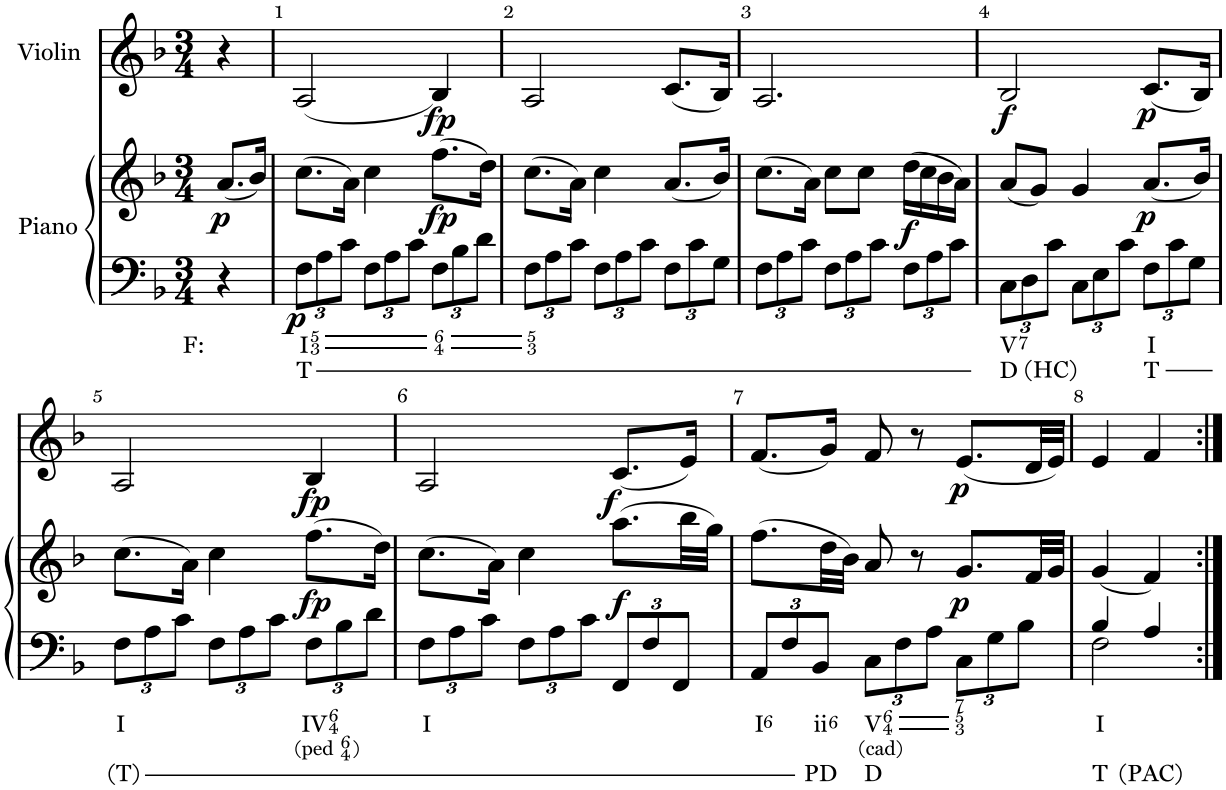
Show answers



The Pedal or Neighboring $\frac{6}{4}$

Now listen to Example 14.4 to hear another type of $\frac{6}{4}$. At the beginning of each of the two phrases in this example (mm. 1–2 and 5–6), the opening tonic is expanded in the triplets of the piano left hand by neighboring motion, A–B♭–A and C–D–C above a static F3 in the bass. This voicing takes advantage of the common tone between I and IV, F, by holding it in the bass as a

pedal point and placing the IV chord briefly in the position (F–B♭–D).

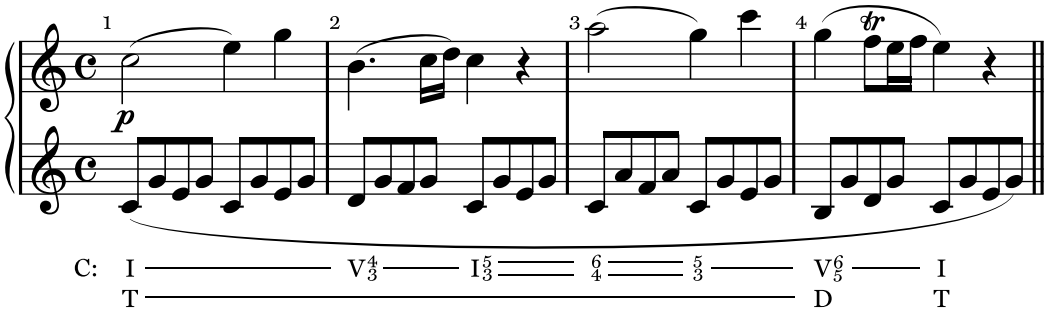
EXAMPLE 14.4: Mozart, Sonata for Violin and Piano, K. 296, mvt. 2, mm. 1–8

KEY CONCEPT A $\frac{6}{4}$ chord created by two simultaneous upper neighbors above a common-tone pedal in the bass is known as a **pedal** or **neighboring** $\frac{6}{4}$. The "pedal" label refers to the sustained or repeated bass note (like a low organ pedal), while "neighboring" refers to the neighbor motion in the upper voices.

You could label a pedal or neighboring $\frac{6}{4}$ as in measures 1–2, I $\frac{5}{3}$-$\frac{6}{4}$-$\frac{5}{3}$, highlighting the neighbor motion of the upper voices and emphasizing the chord's function as a tonic expansion.

Alternatively, you could write a IV$^{6}_{4}$ (as in m. 5), but with (ped $^{6}_{4}$) or (N$^{6}_{4}$) written below.

Although this type of $^{6}_{4}$ usually appears in a weak metric position, as in the example, it can sometimes be found on the strong beat of a measure, as in Example 14.5 (mm. 2–3). Here again, the upper voices of the $^{6}_{4}$ act as neighbors to the tonic chord tones, with the characteristic pedal point in the bass. Because it expands the tonic and does not proceed to V, this type of IV$^{6}_{4}$ does not carry the PD label, and the phrase expresses T–D–T only.

EXAMPLE 14.5: Mozart, Piano Sonata in C Major, mvt. 1, mm. 1–4



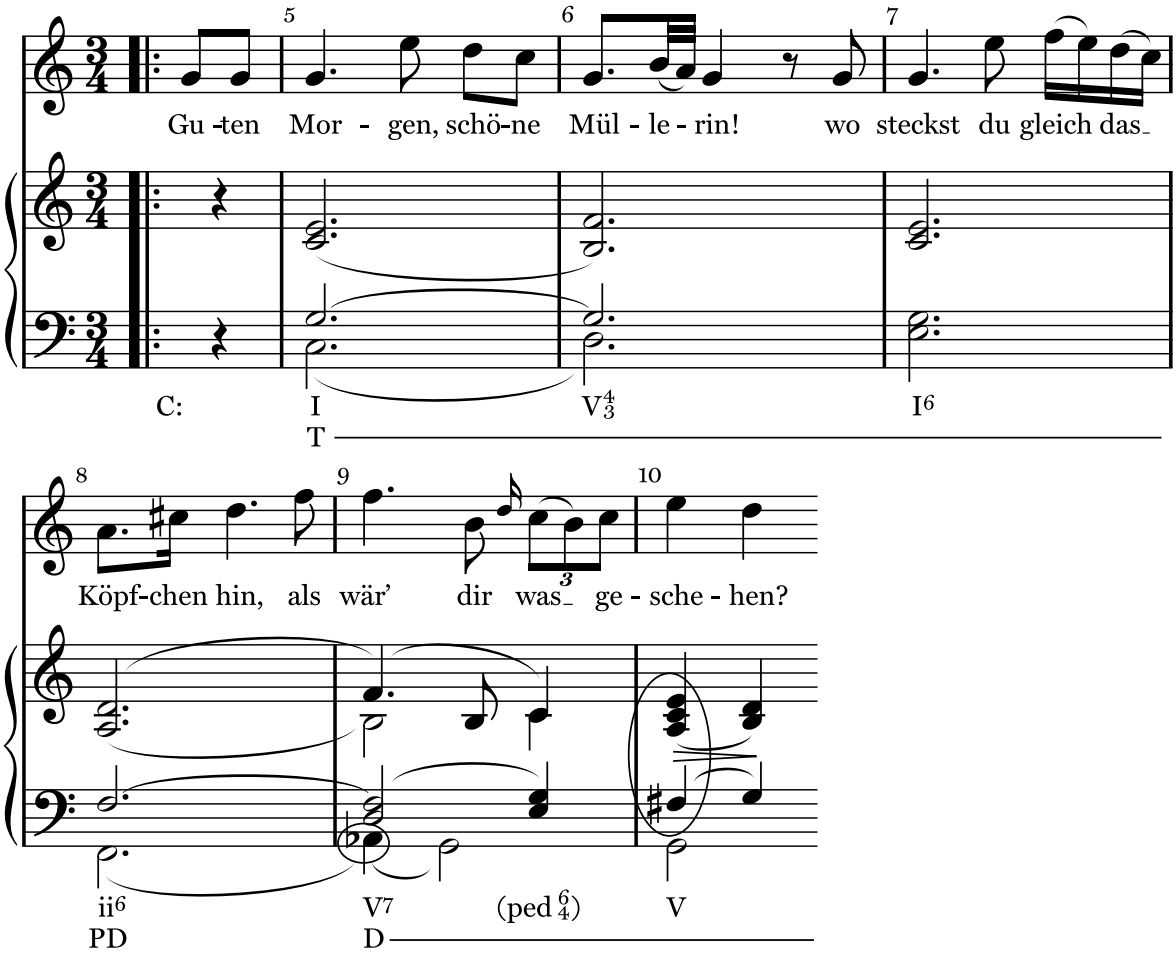
SUMMARY

The pedal or neighboring $^{6}_{4}$

- embellishes and prolongs a root-position triad;
- is usually metrically unaccented;
- shares its bass note with the harmony it embellishes, while two upper voices move in stepwise neighbor motion above that bass.

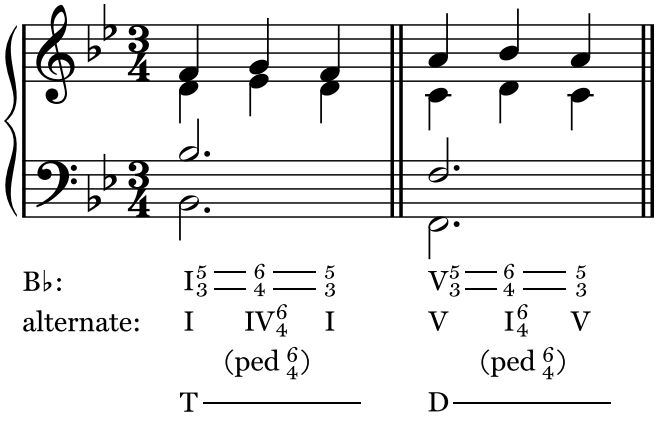
The same technique may be applied to a root-position triad or seventh chord in the dominant area, as in the Schubert song shown in Example 14.6. Here, the dominant harmony of the half

cadence (mm. 9–10) is extended for an additional measure with a pedal I$^{6}_{4}$. (For now, disregard the circled embellishing tones.)

EXAMPLE 14.6: Schubert, "Morgengruss," mm. 5–10

Translation: Good morning, beautiful miller maid! Why did you immediately hide your little head as if something had happened to you?

Example 14.7 shows $^{6}_{4}$ chords expanding the tonic and dominant areas in an SATB context; they may be found in the predominant area as well, but are less common there.

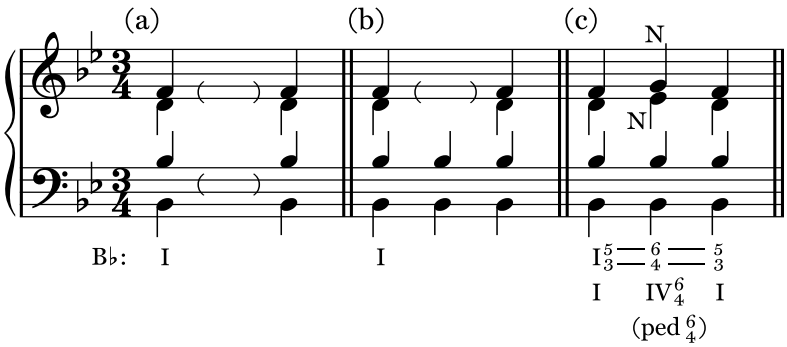
EXAMPLE 14.7: Expanding the tonic and dominant areas



KEY CONCEPT To write a pedal (neighboring) $\frac{6}{4}$:

1. Decide which harmony you want to prolong (T, D, or PD). Write that chord in root position twice with the same voicing, leaving a space between chords for the neighbor tones (Example 14.8a).
2. Fill in the bass of the $\frac{6}{4}$ chord first—the same bass as the chords on either side—and double it in the same voice as the other chords (part b).
3. Write upper neighbors to decorate the other two voices (part c).

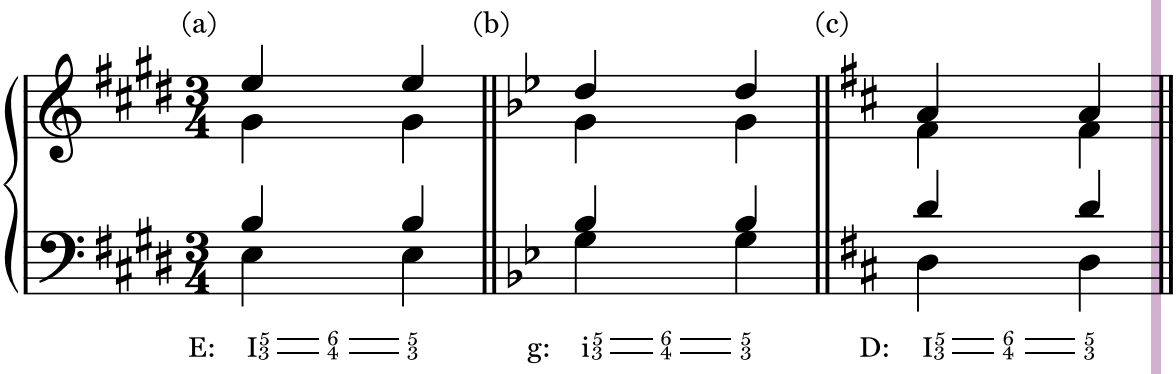
EXAMPLE 14.8: Steps in writing a pedal (neighboring) $\frac{6}{4}$ chord



Try it #2

Try it #2

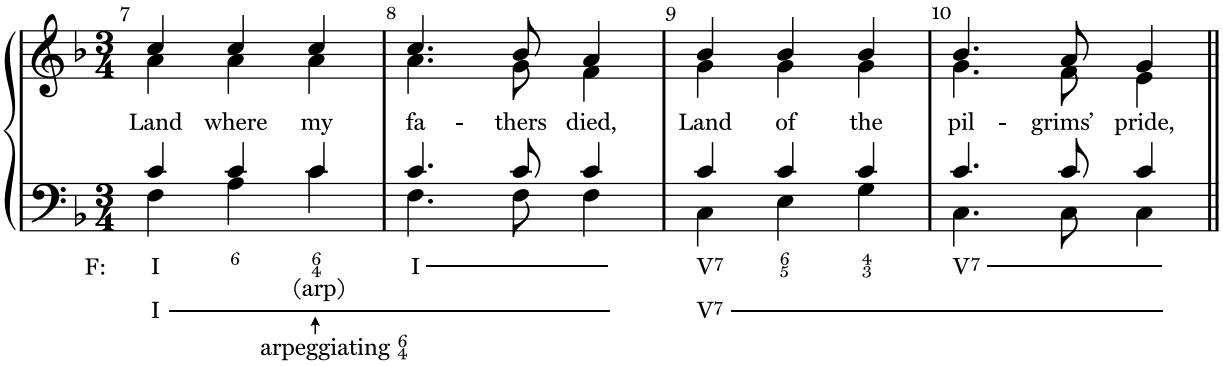
Write a pedal (neighboring) $\frac{6}{4}$ between the two tonic triads given. **Show answers**



The Arpeggiating $\frac{6}{4}$

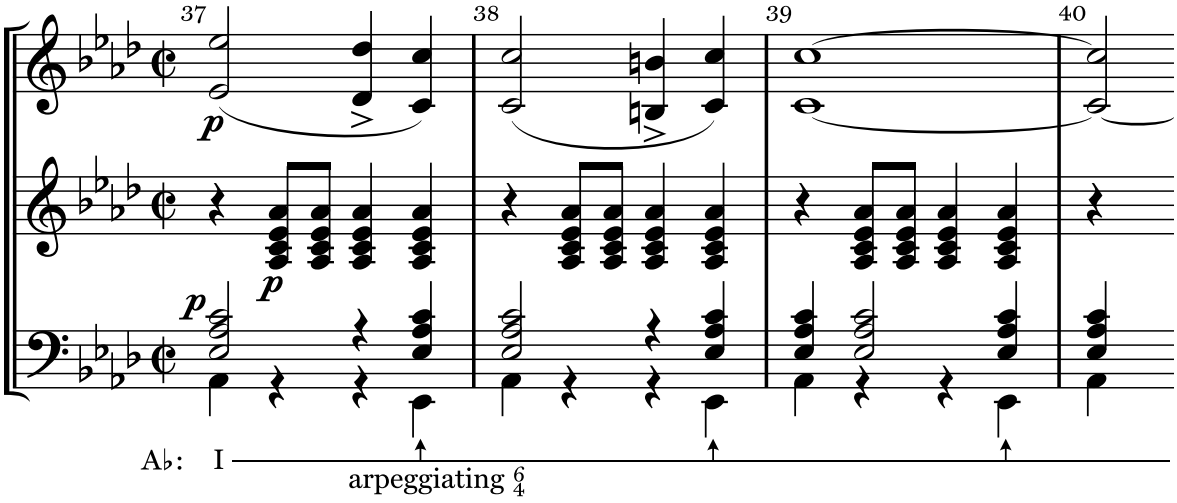
The **arpeggiating** $\frac{6}{4}$ prolongs a single harmony by changing its bass note. This type of second-inversion triad is typical of freer textures with a relatively slow harmonic rhythm. For example, the bass line may arpeggiate a triad, sounding first the root, then the third, then the fifth, as in measure 7 of "My Country" (Example 14.9). When the bass reaches the triad's fifth, an arpeggiating $\frac{6}{4}$ has been created.

EXAMPLE 14.9: "My Country, 'Tis of Thee," mm. 7–10



A bass instrument may create an arpeggiating $\frac{6}{4}$ by alternating between a chordal root and fifth, as in Sousa's "Stars and Stripes Forever" (Example 14.10). In this kind of root-fifth alternation, also found in rags, waltzes, and some popular songs, the $\frac{6}{4}$s are ephemeral: the bass line quickly returns to the root.

EXAMPLE 14.10: Sousa, "The Stars and Stripes Forever," Trio, mm. 37–40



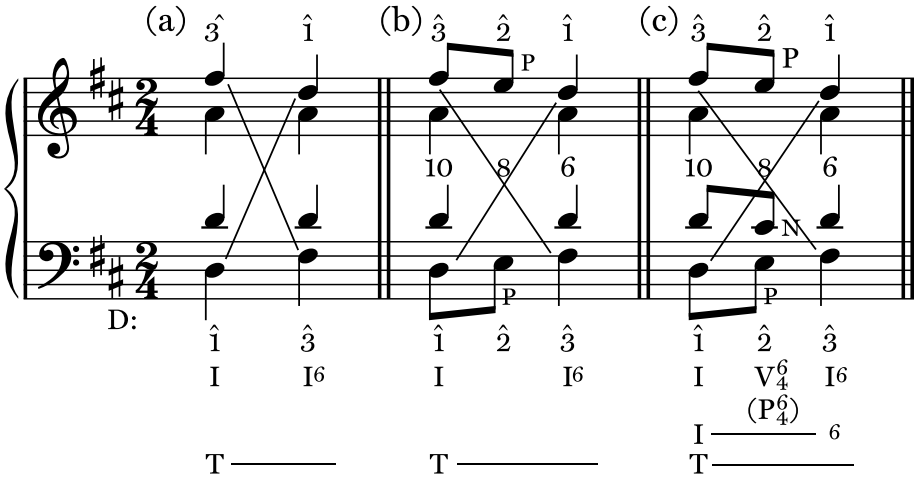
There are no special voice-leading rules for writing an arpeggiating $\frac{6}{4}$, other than the recommendation that it be placed on a weak beat. When analyzing with Roman numerals, consider what the main bass note of the measure is—usually the

lowest-sounding chord tone—and examine the progression with that note in mind. Label the chord with (arp) or (arpeggiating) written beneath the $\frac{6}{4}$, as in Examples 14.9 and 14.10.

The Passing $\frac{6}{4}$

A common strategy for expanding the tonic area is to move from root-position I to I^6 or the reverse, which may involve a voice exchange between $\hat{1}$ and $\hat{3}$. Example 14.11 shows a soprano-bass voice exchange similar to those in first-species style. In part (a), F♯5–D5 in the soprano changes places with D3–F♯3 in the bass. Part (b) shows the same exchange embellished with unaccented passing tones, producing counterpoint in contrary motion: $\hat{1}$–$\hat{2}$–$\hat{3}$ in the bass and $\hat{3}$–$\hat{2}$–$\hat{1}$ in the soprano. The passing tone here can be harmonized, as in part (c), with a **passing $\frac{6}{4}$** chord, labeled (P^6_4).

EXAMPLE 14.11: Voice exchanges between I and I^6 that expand the tonic area

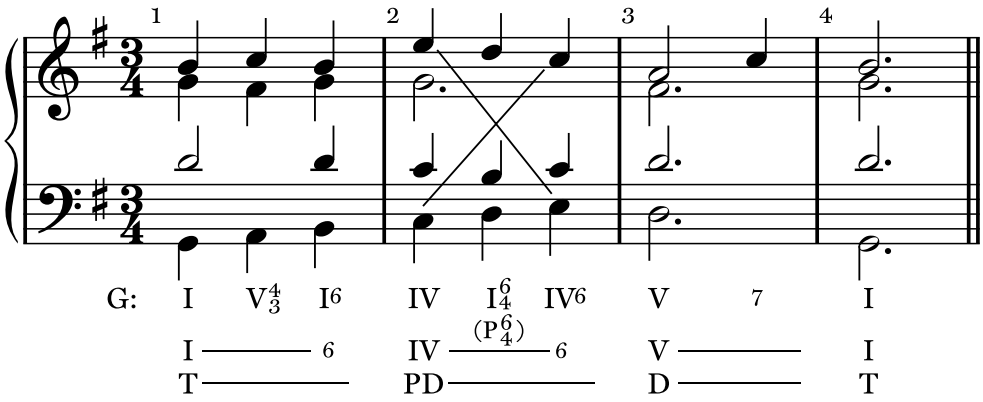


Passing $\frac{6}{4}$ chords are defined by their bass-line passing motion. In part (c), the passing chord is created by adding a lower

neighbor tone (C♯4) to the tenor voice. The passing V$^{6}_{4}$ expands the tonic in the same way as the passing V$^{4}_{3}$ we saw in Chapter 13. Because of its $^{6}_{4}$ position and weak metric context, this passing V does not convey a dominant function and so would not be labeled with a D in contextual analysis. Instead, it plays a *voice-leading* role: it expands the tonic area in a way that is much more interesting than merely repeating the tonic or moving directly from I to I^{6}.

Passing $^{6}_{4}$s can expand other harmonies as well, usually the subdominant or dominant. In Example 14.12, the subdominant harmony is expanded by a passing I$^{6}_{4}$ (m. 2); the progression becomes IV–I$^{6}_{4}$–IV^{6} (or IV–P$^{6}_{4}$–IV^{6}).

EXAMPLE 14.12: Subdominant prolonged with a passing $^{6}_{4}$

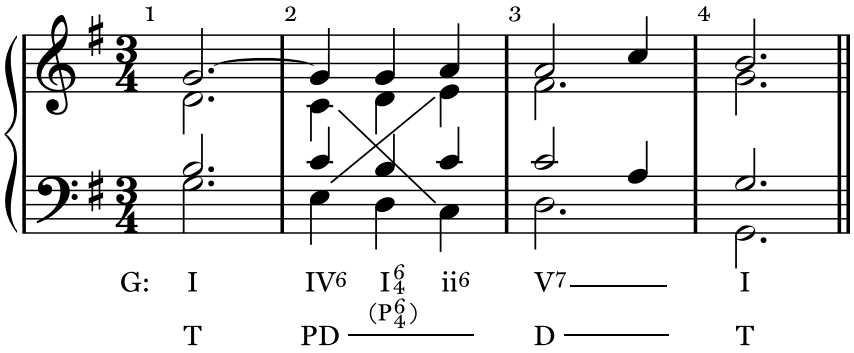


Progressions featuring passing $^{6}_{4}$s are usually "reversible": the root-position harmony can come first or last. Unlike cadential $^{6}_{4}$s, passing $^{6}_{4}$s typically occur on unaccented positions in the measure. Analyze with a P$^{6}_{4}$ beneath the chord, and in the contextual analysis simply write a long dash after the functional label (e.g., T or PD), as in Example 14.12.

The passing $^{6}_{4}$ may also connect two different chords as long as the chords belong to the same functional area. For example, in the progression IV^{6}–I$^{6}_{4}$–IV, the last chord may be replaced

with ii^{6}—a triad with the same function and the same bass as the IV chord (Example 14.13, m. 2). This type of progression, sometimes with chromatic chords substituted for the diatonic ones, is a mainstay of Romantic-era harmony, as we will see in later chapters.

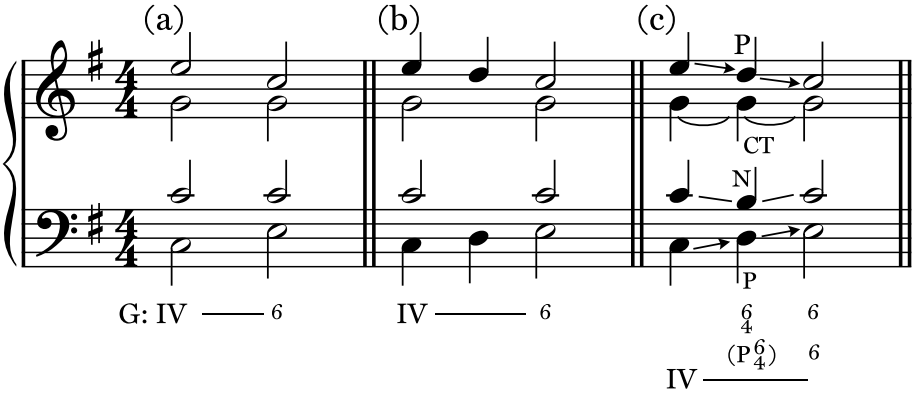
EXAMPLE 14.13: Passing $\frac{6}{4}$: IV^{6}–I$^{6}_{4}$–ii^{6}



KEY CONCEPT To write passing $\frac{6}{4}$s:

1. Decide which harmony you want to prolong (normally tonic, dominant, or subdominant).
2. Set up root-position and first-inversion chords of that harmony, with a voice exchange between the bass and one of the upper parts, often the soprano (Example 14.14a).
3. Fill in the skips of a third with stepwise motion in both voices; this automatically doubles the fifth of the $\frac{6}{4}$, the correct doubling (part b).
4. Complete the other voices. All parts should connect by common tone or by step.

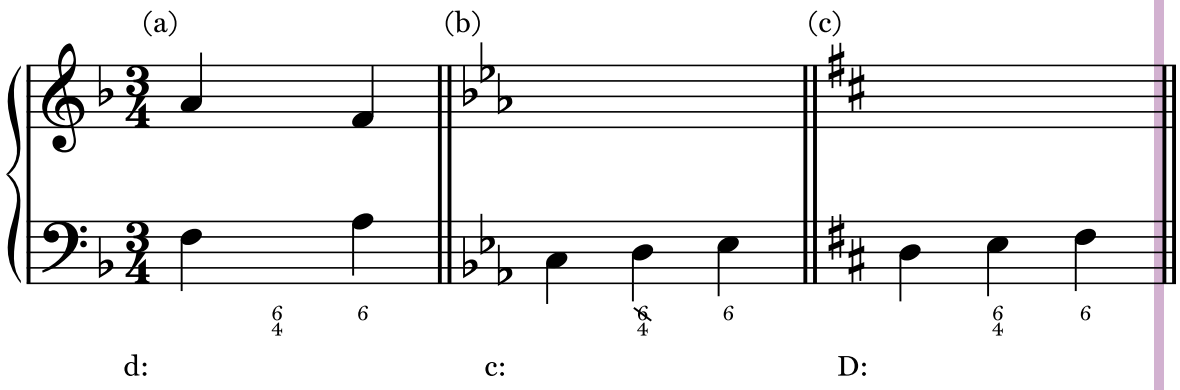
EXAMPLE 14.14: Steps in writing a passing $\frac{6}{4}$



Try it #3

Fill in the space between the I and I^6 (or i and i^6) with a passing $\frac{6}{4}$, from the bass and figures provided. Include a voice exchange with the soprano, and write a Roman numeral analysis.

Show answers



The Four $\frac{6}{4}$ Types

When a root-position chord is replaced with a first-inversion chord, the general function of the progression stays the same. We might infer that triads in $\frac{6}{4}$ position are also interchangeable with other inversions. But $\frac{6}{4}$ chords have always been treated specially in tonal music: they are used only in a few specific contexts, usually to expand one of the functional areas of the

basic phrase.

KEY CONCEPT Each $\frac{6}{4}$ chord you write must be one of the following types:

- cadential $\frac{6}{4}$
- pedal or neighboring $\frac{6}{4}$
- passing $\frac{6}{4}$
- arpeggiating $\frac{6}{4}$

Further, be sure any $\frac{6}{4}$ you write lies within the T, PD, or D area (e.g., don't write a iii$\frac{6}{4}$ or vi$\frac{6}{4}$). Although $\frac{6}{4}$ chords can be left out without changing the underlying organization of a phrase, this does not mean they are unimportant: second inversions are an essential voice-leading strategy in many genres of tonal music and can be a significant indication of musical style.

SUMMARY

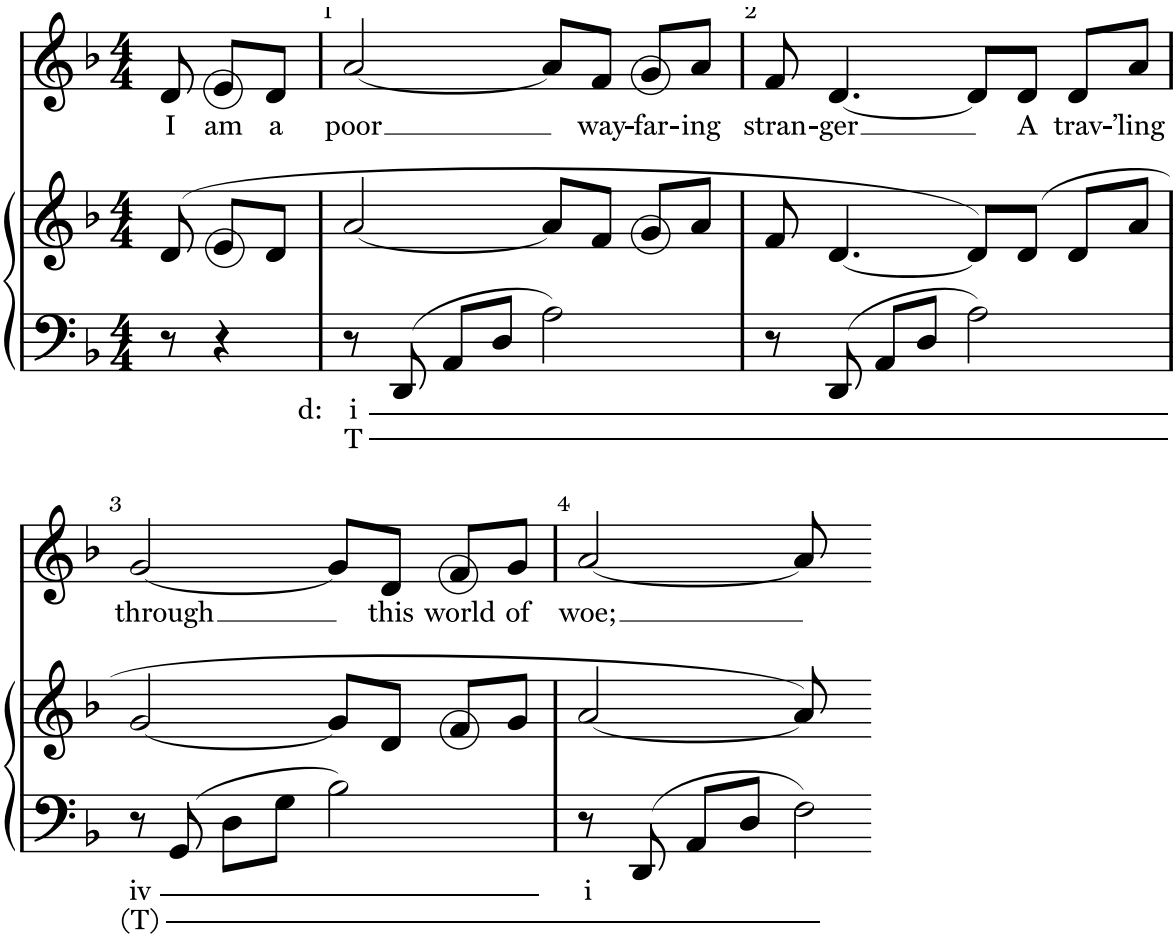
To review, when writing $\frac{6}{4}$ chords:

- Always double the bass.
- Be sure you can name the type of $\frac{6}{4}$. (If you can't name it, it probably doesn't belong there.)
- In all $\frac{6}{4}$s except arpeggiating, all voices should approach and leave chord members by step (forming neighbor or passing tones) or by common tone.
- Arpeggiating $\frac{6}{4}$s feature chordal skips within the expanded harmony, but must resolve correctly to the next harmony.

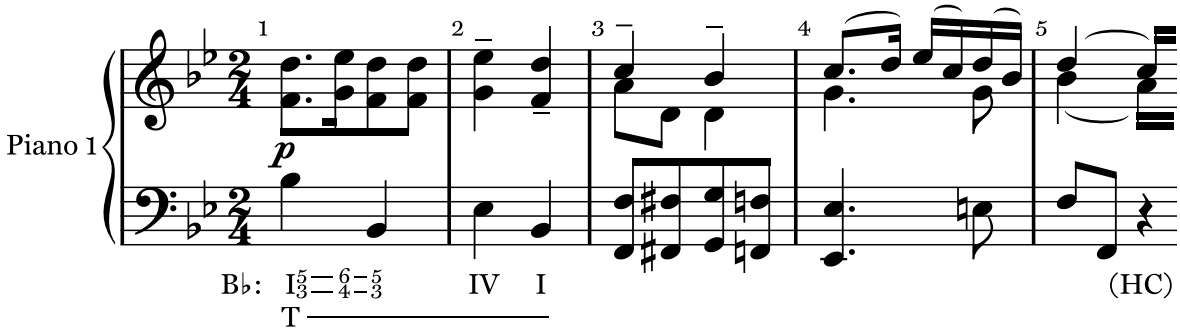
Other Expansions of the Tonic Area

The Subdominant in Tonic Expansions

As we have seen, when the subdominant, in any inversion, appears between two tonic chords, it does not serve a predominant function because it does not progress to a dominant harmony. Example 14.15, showing i–iv–i in a folk style, illustrates this principle. (Circled notes are embellishing tones.)

EXAMPLE 14.15: "Wayfaring Stranger," mm. 1–4

Measures 1–2 of Example 14.16 feature a tonic expansion with root-position I–IV–I chords; these same chords appear in measure 1, but with the IV as a neighboring $\frac{6}{4}$ lasting only one sixteenth note. The repetition of the same gesture in measure 2 with the root of the IV (E♭) in the bass draws the listener's attention to both statements.

EXAMPLE 14.16: Brahms, *Variations on a Theme by Haydn*, mm. 1–5

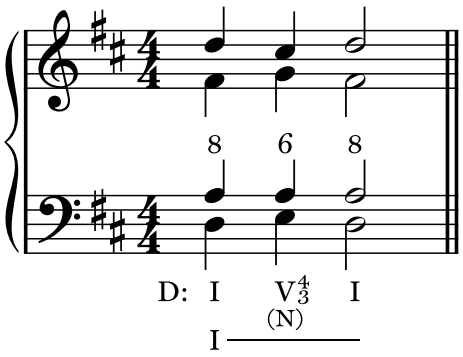


The Dominant in Tonic Expansions

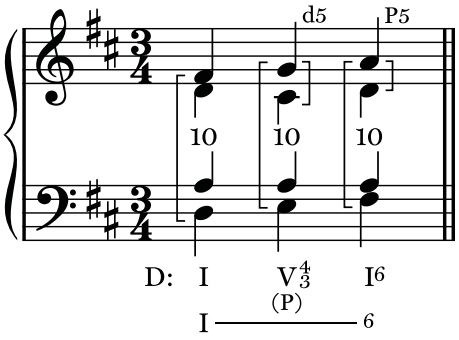
When the tonic area is expanded by dominant triads and seventh chords, there are several outer-voice patterns that work well and fit within the guidelines of species counterpoint. In Example 14.17, for instance, neighbor and passing motion in the soprano and/or bass produces the outer-voice intervals 8–6–8 and 10–10–10.

EXAMPLE 14.17: Tonic expansions with neighbor and passing motion

(a) Neighboring motion



(b) Passing motion



In part (b), the passing dominant is analogous to the passing $^6_4$, and this voice-leading pattern (10–10–10) overrides the normal resolution of the chordal seventh (G4) down.

KEY CONCEPT When the soprano moves $\hat{3}$–$\hat{4}$–$\hat{5}$ against a bass line of $\hat{1}$–$\hat{2}$–$\hat{3}$, the outer voices move in parallel tenths. The chordal seventh of the V$^4_3$ moves upward ($\hat{4}$ to $\hat{5}$ in the soprano), and the d5 may move to a P5.

Outer-voice patterns that imply a tonic expansion include

- stepwise motion between members of the tonic triad (e.g., $\hat{1}$–$\hat{2}$–$\hat{3}$, $\hat{3}$–$\hat{2}$–$\hat{1}$, $\hat{3}$–$\hat{4}$–$\hat{5}$, or $\hat{5}$–$\hat{4}$–$\hat{3}$ in either soprano or bass), or
- neighboring motion above or below a member of the tonic triad (e.g., $\hat{1}$–$\hat{2}$–$\hat{1}$, $\hat{1}$–$\hat{7}$–$\hat{1}$, $\hat{3}$–$\hat{2}$–$\hat{3}$, $\hat{3}$–$\hat{4}$–$\hat{3}$, or $\hat{5}$–$\hat{4}$–$\hat{5}$).

Combine these patterns with contrary motion in the other voice, or with parallel motion between voices in tenths. You

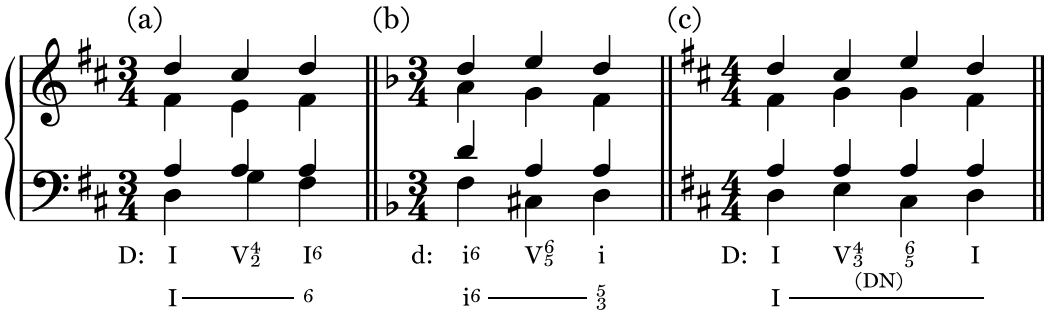
may also combine passing motion in one voice with neighbor motion in the other. As always, avoid soprano-bass patterns that result in parallel perfect intervals or a poor resolution of tendency tones.

Although we have focused on stepwise motion, bass-soprano combinations that include a bass-line skip are also possible. For example, the bass might skip from a member of the tonic triad to an inverted dominant chord before resolving, as in Example 14.18a and b. The bass note G3 in part (a) could have been approached by step from the chord tone F♯, had the initial tonic chord been in first inversion; this implied stepwise connection is what makes the bass line work.

In part (b), the bass line skips a diminished fourth; although such a skip is normally avoided in common-practice voice-leading, here it makes sense because of the stepwise connection that would have been made had the first chord been in root position. Motion of this sort in the bass can be expressive and beautiful, especially skips to the leading tone in minor. Write skips like this only in the bass, and only where the function of the skip (here, as a tonic expansion) is clear.

Double neighbor tones are another possibility for the bass (part c): the bass line skips from one inversion of the dominant to another, as in the progression I–V^4_3–V^6_5–I (shown here), or I–V^6_5–V^4_3–I.

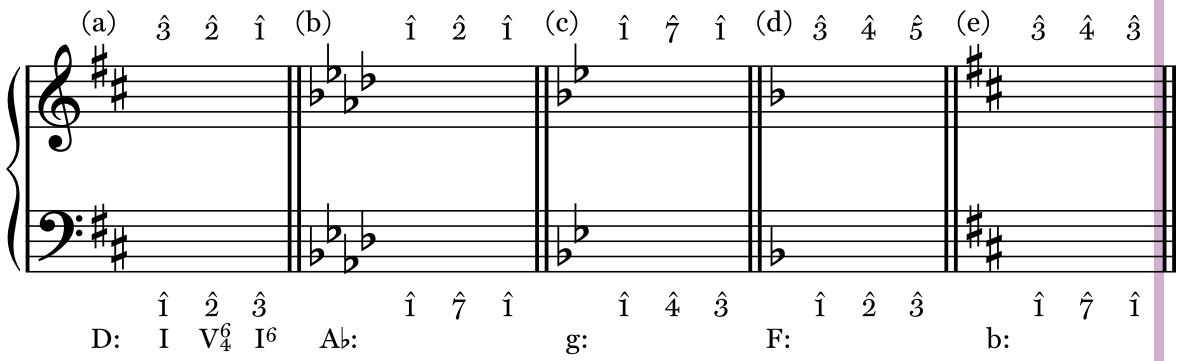
EXAMPLE 14.18: Tonic expansions with skips in the bass line



Try it #4

Determine which three chords best harmonize the following outer-voice patterns. Notate the chords on the staves, and write the Roman numerals below.

Show answers



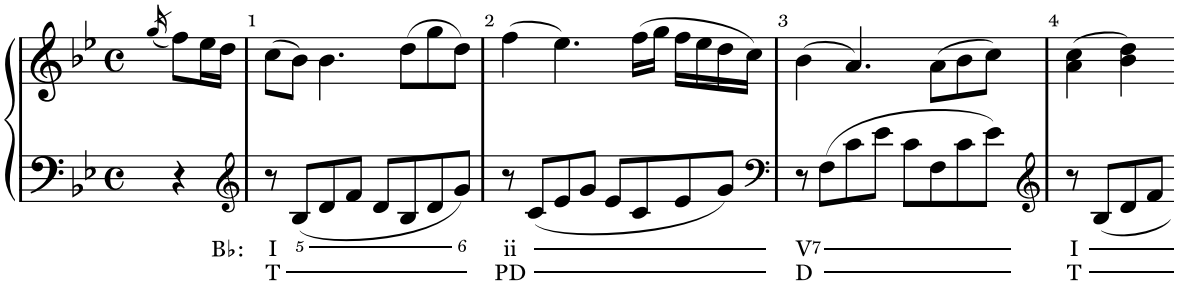
Contexts for the Submediant

Since the submediant triad shares two scale degrees with the tonic triad (1̂ and 3̂), it often serves as a tonic expansion or substitute. The two types of tonic expansions presented here—by 5–6 motion and the progression I–vi (or i–VI in minor)—usually appear at phrase beginnings.

With 5–6 Motion Consider the first phrase from Mozart's B♭ Major Sonata (Example 14.19), where the tonic chord in the first half of measure 1, arpeggiated in the left hand, is subtly transformed in the second half of the measure as F4 moves to G4 (G5 appears in the right-hand melody as well). Since this F–

G motion above the bass, B♭3, forms the intervals 5–6, you could label the last beat of the measure a vi^{6}; however, this "submediant" created from voice-leading is so brief that we hardly hear it as a new chord. Rather, the 5–6 linear motion allows I to move smoothly to ii (m. 2), and prevents the parallel fifths that would otherwise occur between the root-position triads I to ii.

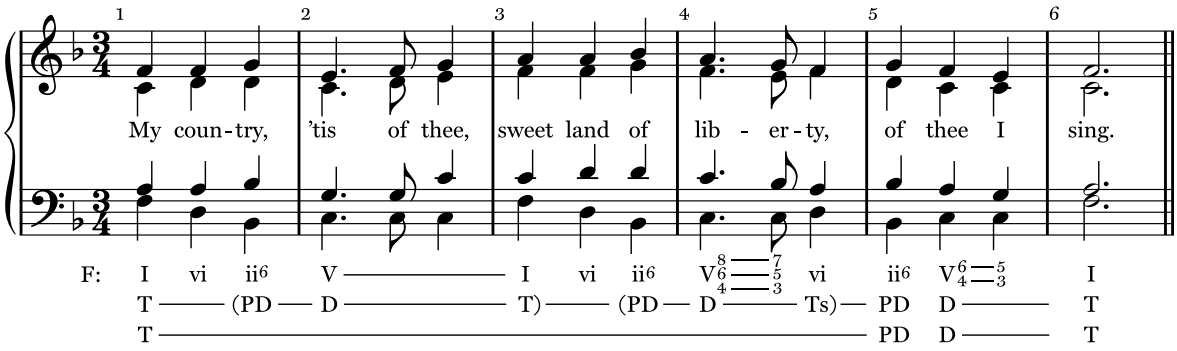
EXAMPLE 14.19: Mozart, Piano Sonata in B♭ Major, mvt. 1, mm. 1–4



KEY CONCEPT The tonic area may be expanded by 5–6 intervallic motion above scale degree î. This motion is generally labeled I$^{5–6}$ rather than I–vi^{6}, though either is correct.

I–vi (i–VI in Minor) A phrase that begins with tonic and submediant harmonies creates an effect similar to the linear 5–6, but the bass movement down a third adds emphasis to the change of chord color: from major to minor (I–vi) in major keys, and from minor to major (i–VI) in minor keys. The progression I–vi–IV–V is a standard context for the submediant; you probably know it well from the "Heart and Soul" piano duet. This expansion of the tonic area is usually labeled with separate Roman numerals, as in "My Country" (Example 14.20).

EXAMPLE 14.20: "My Country, 'Tis of Thee," mm. 1–6


1 2 3 4 5 6
My coun-try, 'tis of thee, sweet land of lib - er-ty, of thee I sing.
F: I vi ii6 V I vi ii6 V8/6 7/5 4/3 vi ii6 V6/4 5/3 I
T (PD D T) (PD D Ts) PD D T
T PD D T

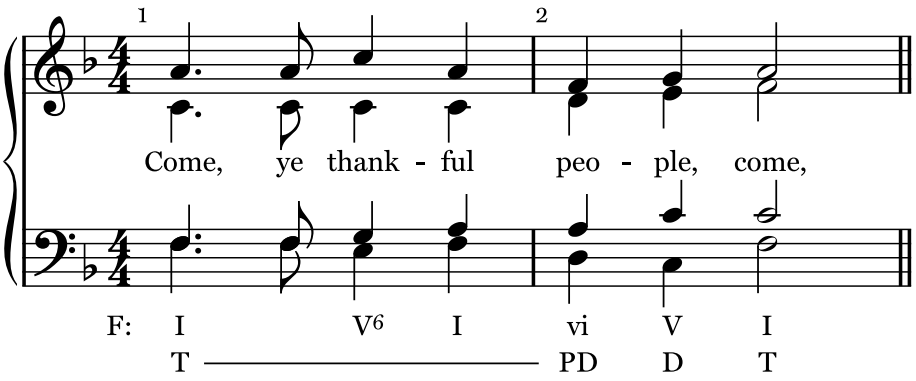
In the upper-level contextual analysis given here, we show that the vi chord expands the tonic area (in mm. 1 and 3) by drawing a line from T until the harmonic function changes (on beat 3). In measure 4, the context for the submediant is slightly different: it follows V, not I. Rather than expanding the tonic, it serves instead as a tonic substitute, supplying a **deceptive resolution** to V (we will learn more about this in Chapter 15). Label this type of vi chord as a Ts (tonic substitute) in keeping with the basic phrase model (D resolves to T).

Now look at the voice-leading for I to vi in measures 1 and 3. To connect the tonic and submediant harmonies:

- hold the common tones ($\hat{1}$ and $\hat{3}$) in two parts,
- move $\hat{5}$ to $\hat{6}$,
- move the bass down a third from $\hat{1}$ to $\hat{6}$.
- The root of the vi chord will be doubled.

In phrases without the standard predominants—ii^{6}, ii$^{6}_{5}$, or IV (or their minor-key equivalents)—the vi chord can also play a weak predominant role, as shown in the hymn in Example 14.21. Here, because of its position on a strong beat, moving to the cadential V, the submediant functions more as cadential preparation than tonic expansion. (Contrast this with Example 14.20, where the vi chord appears on a weak beat and moves to ii^{6}.)

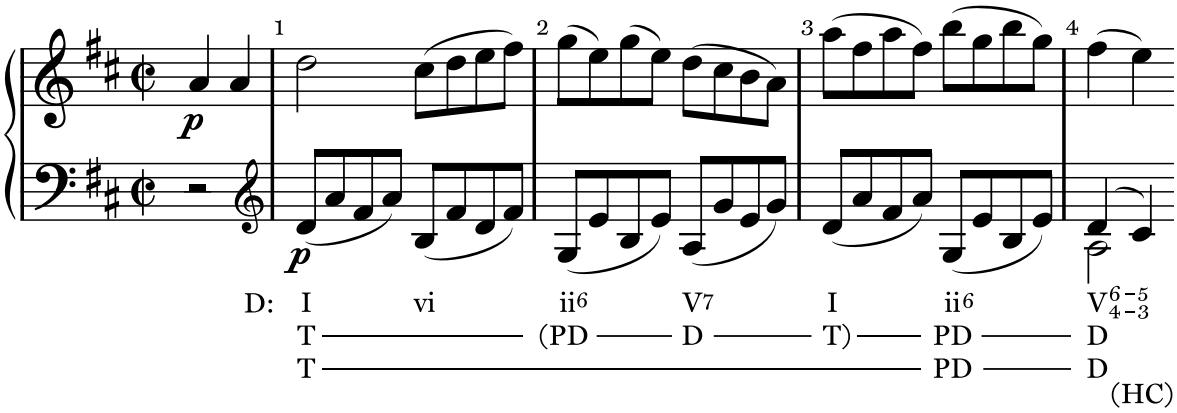
EXAMPLE 14.21: "St. George's Windsor," mm. 1–2



Embedding PD–D–T Within the Tonic Area

We return now to the Mozart phrase with which the chapter began, which opens with the same progression as "My Country": I–vi–ii^{6}–V^{7}–I. On the local level, the I and vi chords express the tonic area, with the composer's characteristic parallel fifths (!). (These fifths, a consequent of the Alberti-bass pattern, are so common in his pieces that they are often dubbed "Mozart fifths.") The ii^{6} chord in measure 2 functions as a predominant to the following V^{7}.

EXAMPLE 14.22: Mozart, Piano Sonata in D Major, mvt. 3, mm. 1–4



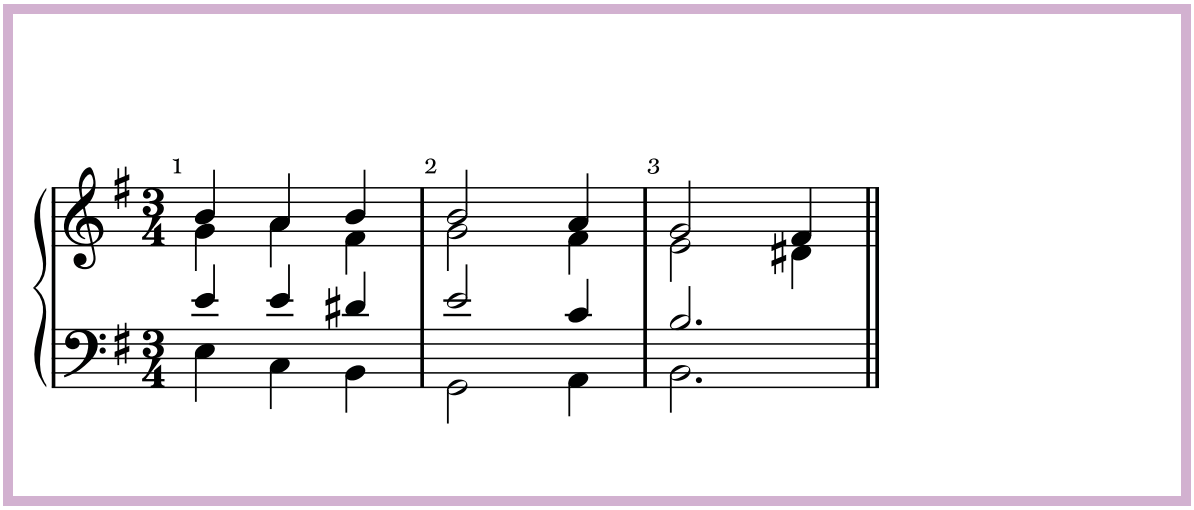
Let's consider how this progression functions in terms of the phrase as a whole. Although the V7 in measure 2 moves to I, it does not create a phrase-ending cadence here. While the left hand sets up what seems to be cadential motion (root motion $\hat{5}$ to $\hat{1}$), the melody refuses to cooperate—it comes to a resting place only in measure 4 at the half cadence. We can therefore interpret the opening two-and-a-half measures as a tonic expansion, followed by predominant (ii6) and dominant harmonies at the cadence (mm. 3–4), expanded by a cadential $\frac{6}{4}$. The two-level contextual analysis here and under Example 14.20 shows how an embedded PD–D–T (in parentheses, upper level) can expand the tonic area, while the lower level indicates how long the opening tonic expansion actually lasts (usually until the cadential PD–D–T).

KEY CONCEPT Not every dominant-tonic progression makes a cadence. All the musical elements—melody, rhythm, and harmony—must cooperate to create a sense of finality. When small-scale D–T or PD–D–T progressions are embedded within a larger phrase, they serve to prolong the tonic area.

Try it #5

Provide a Roman numeral and contextual analysis for the short progression below, using Example 14.22 as your model.

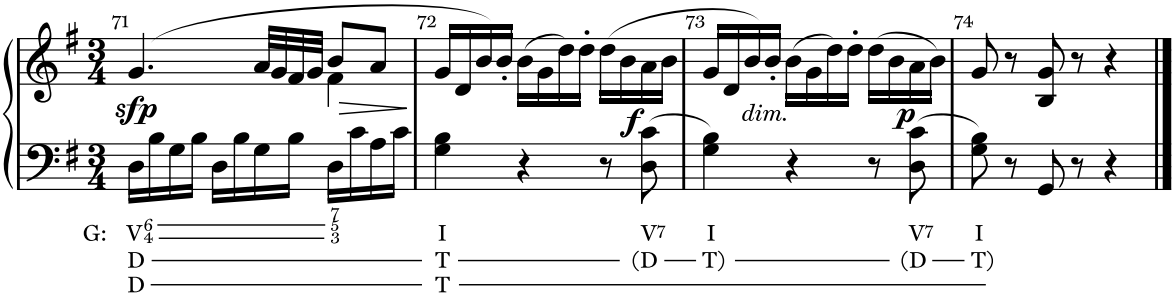
Show answers



Extending the Final Tonic Area

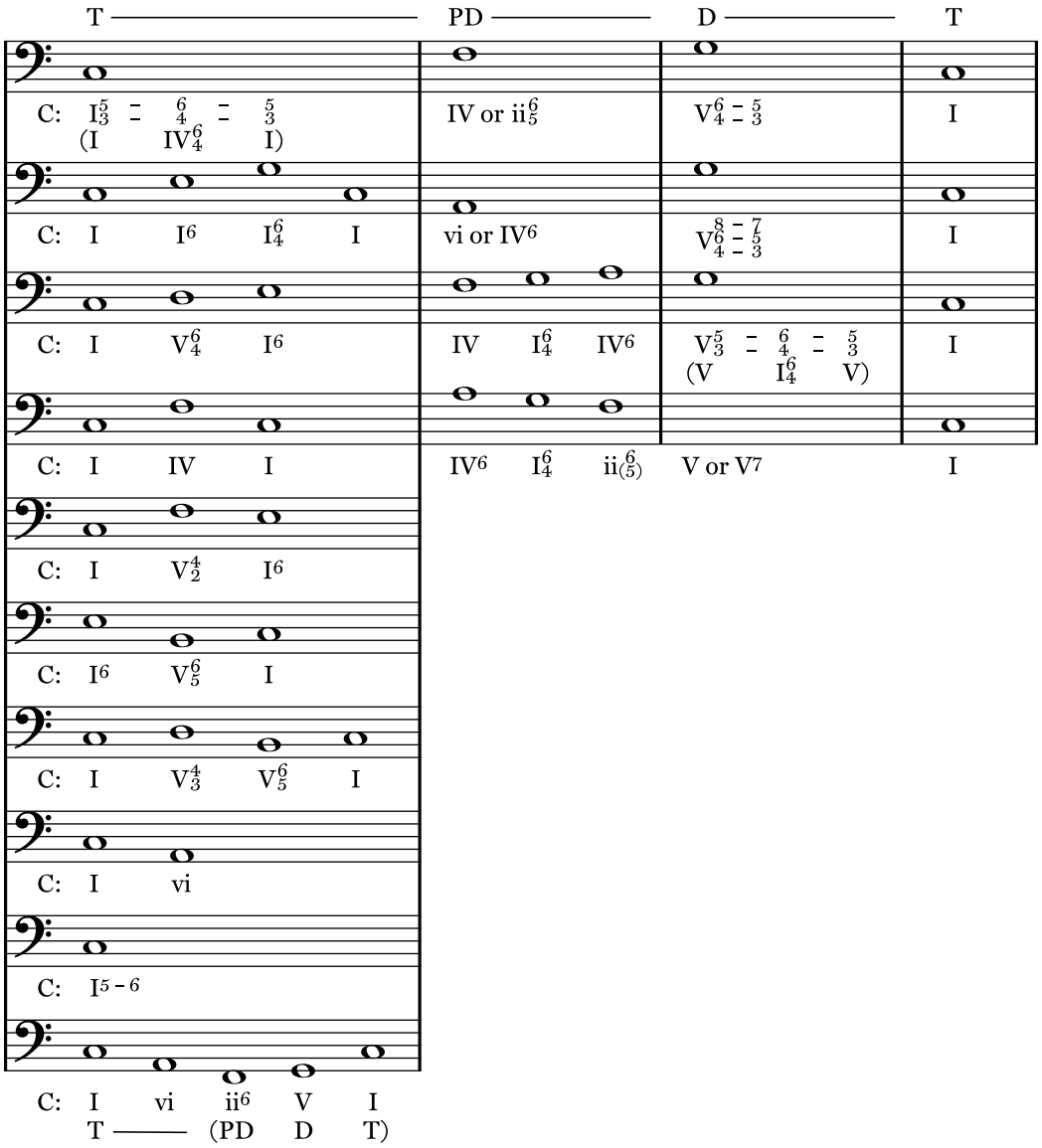
For an example of a tonic expansion at the end of the phrase model, listen to the end of the second movement of the Mozart sonata shown in Example 14.23. Here, after an extended final, lyrical phrase (not shown), the cadential $\frac{6}{4}$ ushers in a conclusive PAC in measures 71–72. Yet this is not the end of the movement: Mozart twice reiterates a V^7–I progression that extends the final tonic area. This type of cadential extension, sometimes called a **codetta**, can also be created by repeating IV–I, IV–I. When writing a contextual analysis, look for the end of a four- or eight-bar melodic-harmonic unit as the end of the basic phrase (D–T); any cadential flourishes or repeated V–I chords that follow are extensions of the tonic.

EXAMPLE 14.23: Mozart, Piano Sonata in C Major, mvt. 2, mm. 71–74



Finally, we can add to the list of basic phrase progressions those studied in this chapter. Read Example 14.24 like a menu—choose one pattern from each column to create an idiomatic progression (the PD column is optional). You now have a vocabulary of chords and progressions that will take you far in analyzing the music you hear and perform.

EXAMPLE 14.24: Basic phrase progressions with T, PD, and D expansions and extensions



Did You Know?

Johannes Brahms's *Variations on a Theme by Haydn*, consisting of a theme in B♭ major, eight variations, and a finale, was composed in 1873 and published in two versions: for two pianos (written first but designated Op. 56b) and for orchestra (Op. 56a). Recent scholarship, however, has revealed that the theme is not likely by Haydn after all. In 1870, Brahms's friend Carl Ferdinand Pohl, librarian of the Vienna Philharmonic Society and a Haydn biographer, showed the composer a transcription he had made of a piece attributed to Haydn. The second movement was titled "St. Anthony Chorale," and this is the theme Brahms appropriated. It turns out that Pohl's piece was not by Haydn, however, and while current usage still prefers the original title, *Variations on the St. Anthony Chorale* is the name favored by those who object to perpetuating a misattribution. Even that name tells us very little, though: to date, no other mention of the so-called St. Anthony Chorale has been found.

Just before the end of the piece, in the coda of the finale, Brahms quotes a short passage that really is by Haydn—the cello line from a measure of his *Clock* Symphony (second movement), one of the finest examples of his pioneering work in the symphonic variation form. This fragmentary allusion may be the music's sole remaining link to Haydn.

TERMS YOU SHOULD KNOW

5–6 motion
arpeggiating $\frac{6}{4}$
cadential $\frac{6}{4}$
dominant expansion
embedded PD–D–T
passing $\frac{6}{4}$
pedal or neighboring $\frac{6}{4}$
pedal point
tonic expansion
tonic substitute (Ts)
voice exchange

QUESTIONS FOR REVIEW

1. Why are cadential $\frac{6}{4}$s labeled $V^{6}_{4\text{-}3}$? Discuss the pros and cons of other possible labeling systems.
2. What is the function of a pedal or neighboring $\frac{6}{4}$? Where is it found?
3. What is the function of an arpeggiating $\frac{6}{4}$? Where is it found?
4. What type of $\frac{6}{4}$ is associated with a voice exchange?
5. What chords (in inversions) typically pass between I and I^{6}?
6. In music for your own instrument, find an example of three of the four $\frac{6}{4}$ types.
7. Under what circumstances do the tendency tones of a passing dominant chord not resolve as usual?
8. What are two ways in which a submediant triad may expand the tonic area?
9. In a contextual analysis, how do you show brief T–D–T or

T–PD–D–T progressions that prolong the tonic at the beginning of a phrase?

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15 New Cadence Types and Diatonic Root Progressions

Outline

New cadence types

- The deceptive cadence and resolution: V–vi (or V–VI)
- The plagal cadence and extension: IV–I (or iv–i)
- The Phrygian cadence: iv^6–V

Basic root progressions

- Root motion by descending fifth
- Root motion by descending third
- Root motion by second

Other diatonic harmonies

- About mediant triads
- The mediant and minor dominant in minor keys
- Parallel $\frac{6}{3}$ chords

Overview

This chapter introduces three additional cadence types and voice-leading for specific root progressions. We also consider uses of the mediant and minor dominant triads.

Repertoire

Johann Sebastian Bach
- Chaconne, from Violin Partita No. 2 in D Minor
- Invention in D Minor
- "Wachet auf" ("Awake," Chorale No. 197)

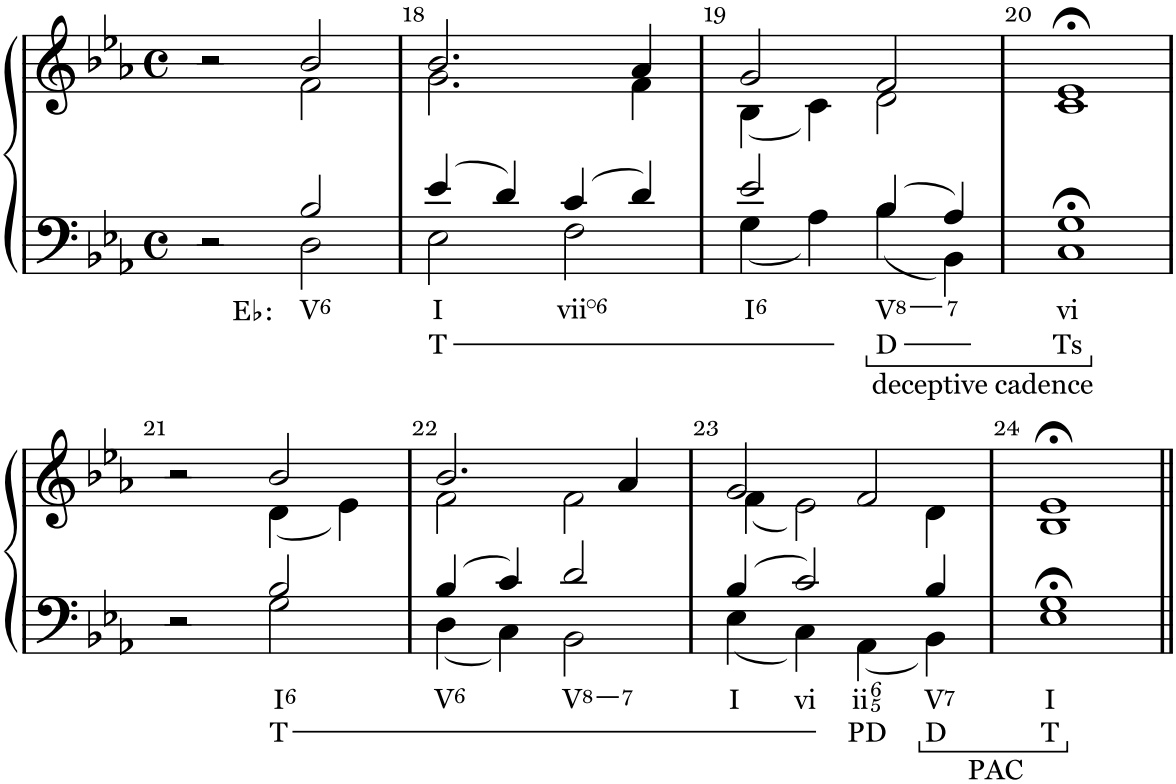
Arcangelo Corelli, Sonata in D Minor, Op. 4, No. 8, Preludio
George Frideric Handel, "Hallelujah!" from *Messiah*
John Lennon and Paul McCartney, "Nowhere Man," from *Rubber Soul*
Don McLean, "Vincent"
Wolfgang Amadeus Mozart, Piano Sonata in D Major, K. 284, mvt. 3
"My Country, 'Tis of Thee"
"Old Hundredth"
Joel Phillips, "Blues for Norton"
Purcell, "Dido's Lament," from *Dido and Aeneas*
"Wayfaring Stranger" (arranged by Norman Lloyd)

New Cadence Types

The Deceptive Cadence and Resolution: V–vi (or V–VI)

Thus far, we have considered how to end phrases with a half cadence (HC), an imperfect authentic cadence (IAC), and a perfect authentic cadence (PAC). Listen to two phrases from Bach's chorale "Wachet auf" (Example 15.1) to hear another option. The melody is the same in each phrase, but the two cadences are quite different.

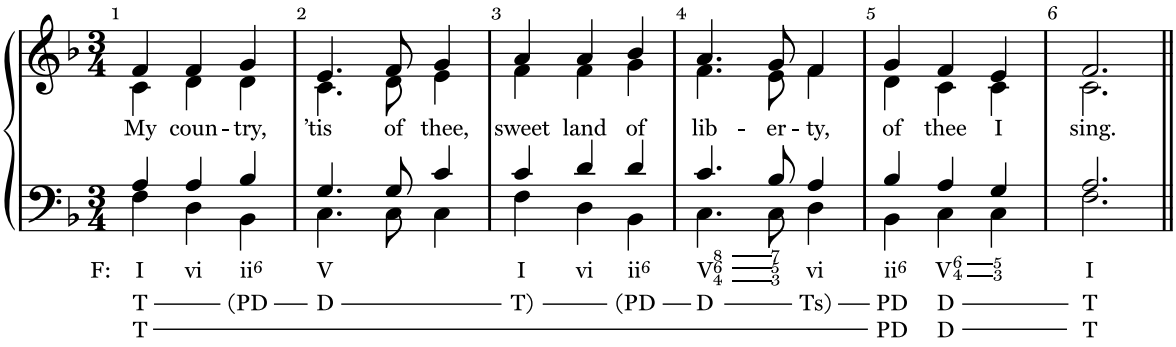
EXAMPLE 15.1: Bach, "Wachet auf," mm. 18–24



At the end of the first phrase (m. 20), Bach replaces the expected final tonic harmony with a tonic substitute (Ts), the submediant triad, to make a **deceptive cadence**: V7–vi. The name is appropriate, since the drama of this harmonic "deception" can be striking.

Sometimes a V–vi motion that sounds deceptive will appear in the middle of a phrase rather than at the end; this is called a **deceptive resolution**, and we have already seen one example, in "My Country, 'Tis of Thee." Listen again to Example 15.2. In measure 4, the V7 on beat 2 is followed by a vi (a deceptive resolution), preventing the phrase from ending on "liberty"; the cadence in measures 5–6 then concludes on the tonic. When connecting V or V7 to vi or VI in the middle of a phrase, you may want to weaken the dominant chord by inverting it or by placing it in a weaker metrical position to make the progression less likely to sound like a firm cadence.

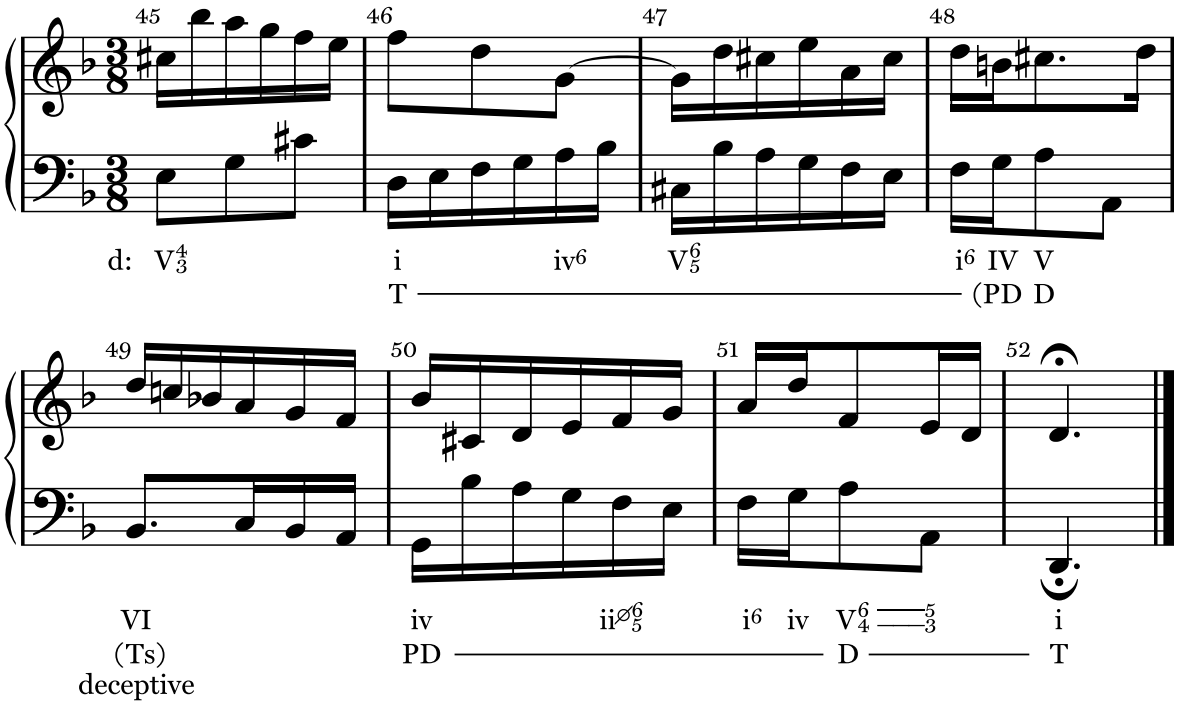
EXAMPLE 15.2: "My Country, 'Tis of Thee," mm. 1–6



Deceptive cadences in general are fairly rare, but in Baroque music you might find one toward the end of a fugue or invention, as in Example 15.3. These contrapuntal pieces tend to build up forward momentum until a "false ending" briefly slows the momentum in preparation for the final cadence. The deceptive cadence (in m. 49) is set up just like a definitive final

PAC except that the bass resolves up by step instead of down a fifth. Then the remainder of the phrase completes the thought that was interrupted by the deception. Though the harmonic rhythm overall is one or two chords per measure, in measures 48 and 51 it accelerates before the cadence, also typical of Baroque style.

EXAMPLE 15.3: Bach, Invention in D Minor, mm. 45–52



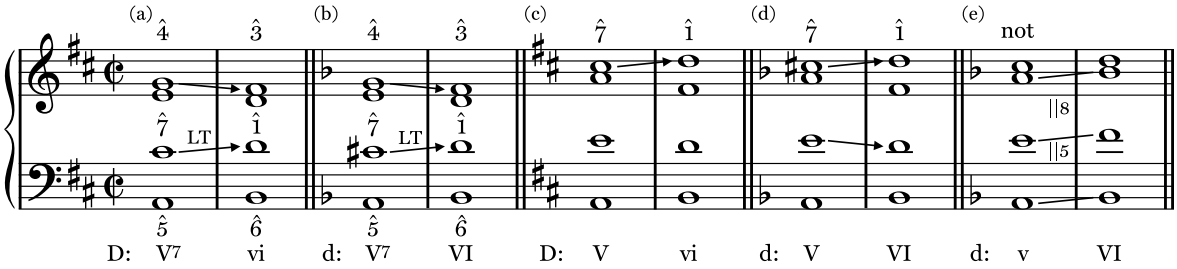
While you may occasionally encounter a "true" deceptive cadence like that in Example 15.1, where it's accompanied by a fermata and a rhythmic context that marks the end of the phrase, you will more often find V–vi employed as a deceptive resolution. What about Example 15.3—might measure 49 be a deceptive resolution rather than cadence? On the one hand, the approach to the VI is set up as strongly as any cadence in the piece (other than the last one), with raised $\hat{6}$–$\hat{7}$–$\hat{1}$ in the highest part; further, we *expect* a deceptive cadence at that

location in a fugue or invention. However, the motion does continue after that false "landing" to the final PAC. Such considerations carry implications for performance: you might approach a deceptive cadence with rubato, like a final cadence, and linger on the downbeat of measure 49 a little more than you would if you perceived it as a deceptive resolution that pushes through to the final close.

KEY CONCEPT The most effective deceptive cadences are voiced just like PACs (see Example 15.4):

- Use root position for both the V (V7) and vi (VI) chords, with $\hat{5}$–$\hat{6}$ in the bass.
- The upper parts resolve the V or V7 normally, with $\hat{7}$ moving up to $\hat{1}$ and the remaining voices moving in contrary motion to the bass (parts a–b).
- $\hat{7}$–$\hat{1}$ or $\hat{2}$–$\hat{1}$ often appear in the highest part, as in a PAC V(7)–I (parts c–d).
- Correct voice-leading results in a doubled third ($\hat{1}$) in the vi (or VI) chord—an exception to the "double the root in root-position triads" guideline.

EXAMPLE 15.4: Deceptive cadence model (D–Ts)

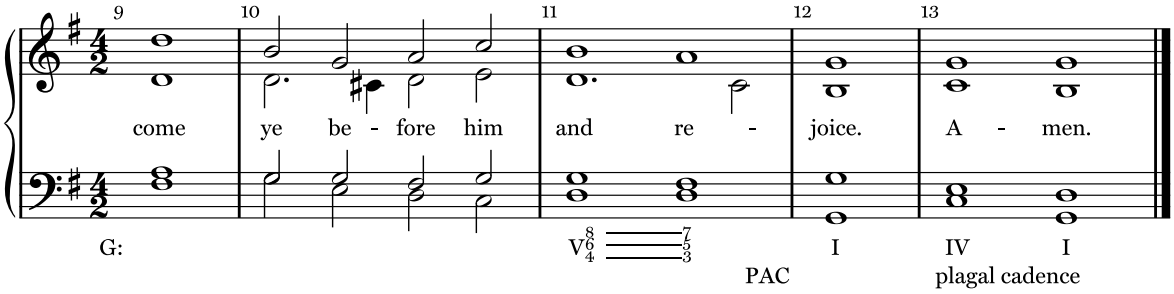


If you attempt to resolve V to vi (or VI) without doubling the third (♎) in the vi (VI), you will end up with parallel everything: parallel octaves *and* fifths between the bass and an upper part (part e). Also recall that in minor keys, the ♭♐ must be raised to ♐ (part d); omitting that accidental is a common error (part e). Although the deceptive cadence with the submediant is the most typical, resolutions such as V–IV⁶ (or other chords that share scale degrees with I or vi) can create a similar effect.

The Plagal Cadence and Extension: IV–I (or iv–i)

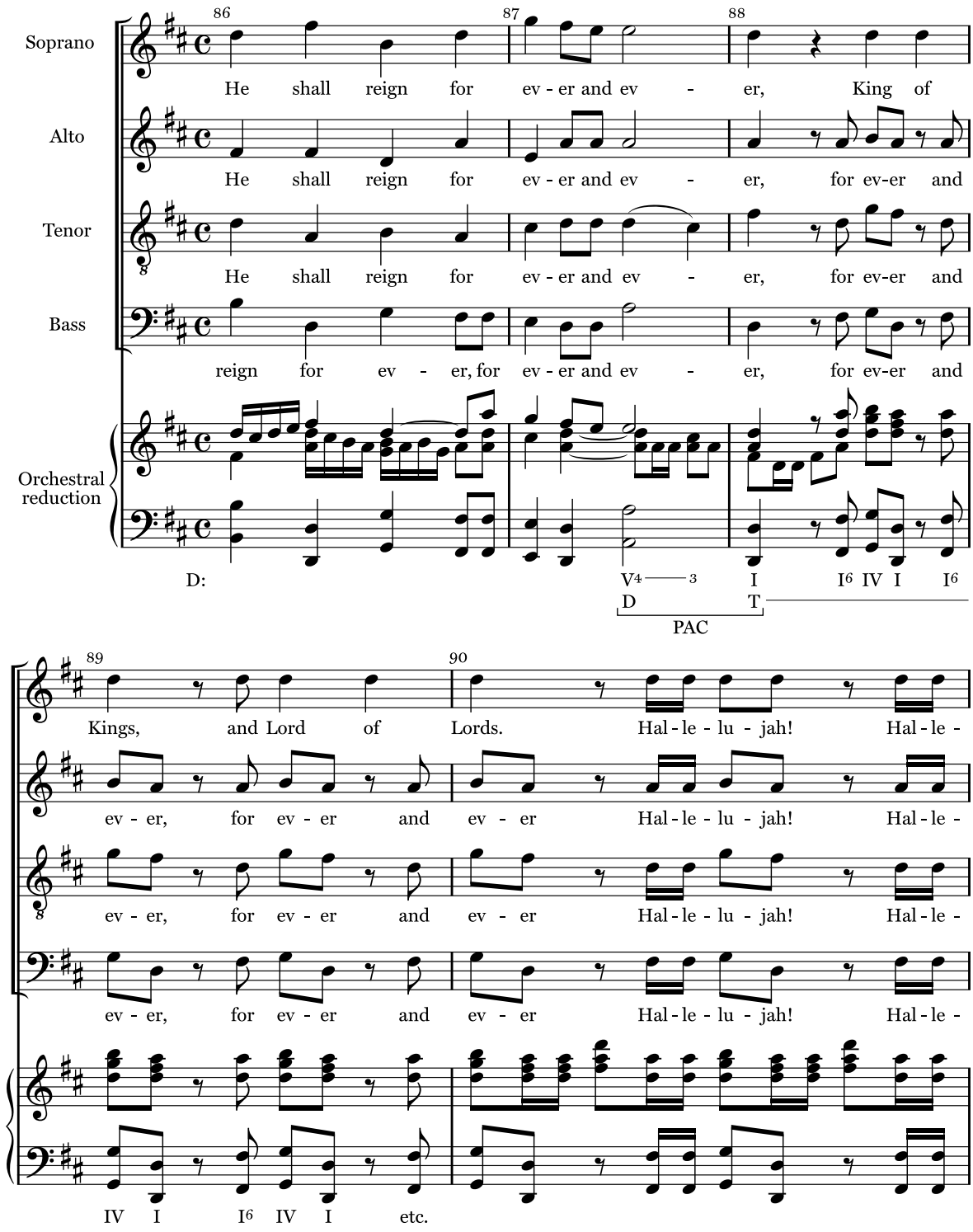
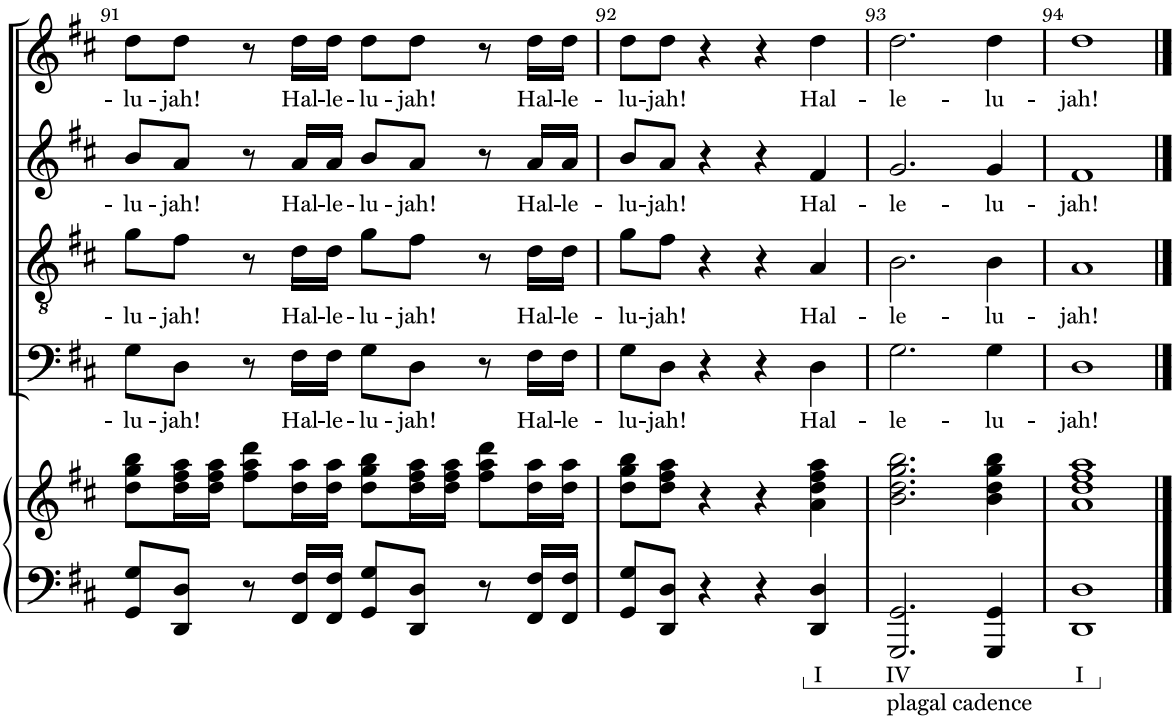
Now listen to the final measures of the hymn "Old Hundredth" (Example 15.5). This setting, like many American hymns, includes an "Amen" at the end, set with the root-position chords IV–I; these chords form a **plagal cadence**. Because of their association with hymns, plagal cadences are sometimes even called "Amen" cadences. Measure 13 provides the standard voice-leading, holding the common tone and moving the other upper voices down by step. Though any of the three upper parts may be used as the soprano line, ♓–♒ and ♎–♎ are especially common.

EXAMPLE 15.5: "Old Hundredth," mm. 9–13

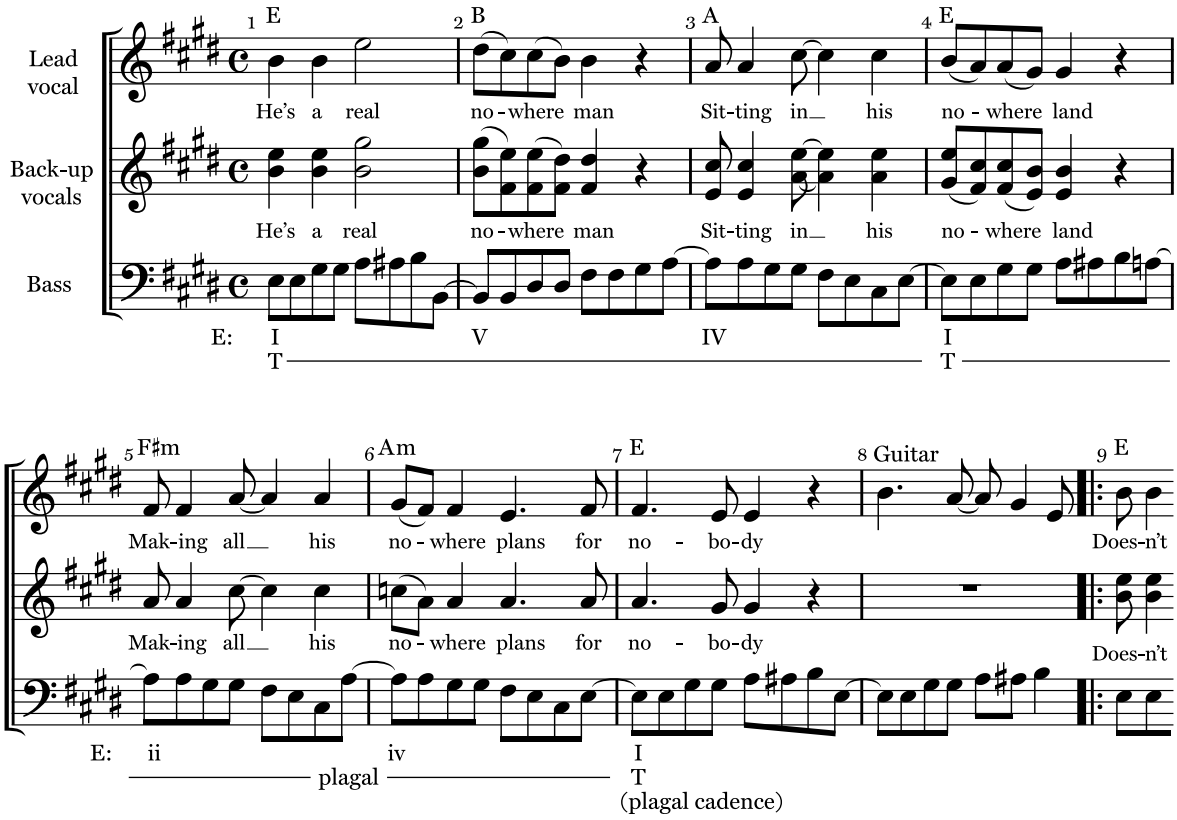


We know from earlier chapters that the progression I–IV–I prolongs the tonic area; plagal motion after a piece's concluding dominant-tonic cadence can also be interpreted as an expansion of the final tonic (some musicians speak of a

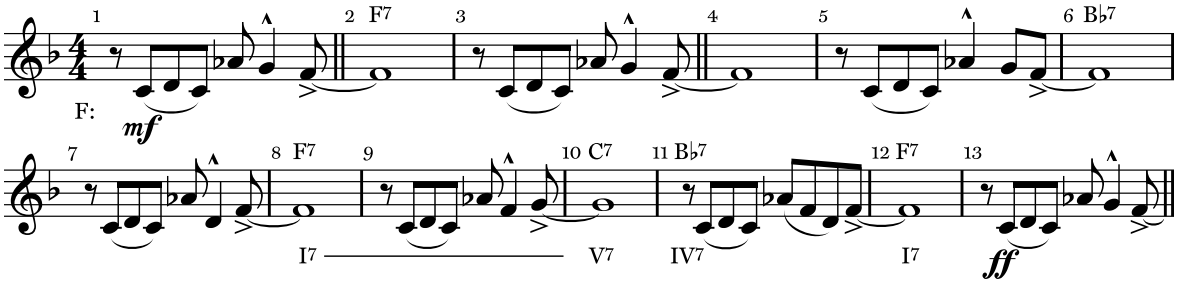
"plagal resolution" or "plagal expansion of the tonic" rather than "cadence"). A famous instance is shown in Example 15.6, from the end of Handel's "Hallelujah Chorus." The final PAC arrives in measures 87–88, but the choir continues to sing I–IV–I repeatedly in a closing section that ends with a forceful plagal cadence on the final "Hallelujah!" Some conductors interpret this structure musically with a sense of arrival in measure 88, before launching into the plagal extension. The extension allows the rhythmic energy of the piece to unwind while reaffirming the tonic with the repeated D5s in the soprano.

EXAMPLE 15.6: Handel, "Hallelujah!," mm. 86–94 (plagal extension)

Soprano
Alto
Tenor
Bass
Orchestral reduction
86
87
88
He shall reign for ev - er and ev - er, King of
He shall reign for ev - er and ev - er, for ev-er and
He shall reign for ev - er and ev - er, for ev-er and
reign for ev - er, for ev - er and ev - er, for ev-er and
D:
V4 3
I
I6 IV I I6
D
T
PAC
89
90
Kings, and Lord of Lords. Hal - le - lu - jah! Hal - le -
ev - er, for ev - er and ev - er Hal - le - lu - jah! Hal - le -
ev - er, for ev - er and ev - er Hal - le - lu - jah! Hal - le -
ev - er, for ev - er and ev - er Hal - le - lu - jah! Hal - le -
IV I I6 IV I etc.

91
92
93
94
- lu - jah! Hal-le - lu - jah! Hal-le - lu-jah! Hal - le - lu - jah!
- lu - jah! Hal-le - lu - jah! Hal-le - lu-jah! Hal - le - lu - jah!
- lu - jah! Hal-le - lu - jah! Hal-le - lu-jah! Hal - le - lu - jah!
- lu - jah! Hal-le - lu - jah! Hal-le - lu-jah! Hal - le - lu - jah!
I
IV
I
plagal cadence

In some rock and blues styles, the progression I–V–IV–I is a basic ingredient of the harmonic structure. Take the opening of Lennon and McCartney's "Nowhere Man" (Example 15.7), for instance. You might hear the first four measures (chord symbols E–B–A–E, or I–V–IV–I) as prolonging the tonic; measures 5–7 then end with a plagal cadence (iv–I). The use of the progression ii–iv, not standard in common-practice music, and the minor iv (instead of major) lend a fittingly lonely sound to depict this "nowhere" man.

EXAMPLE 15.7: Lennon and McCartney, "Nowhere Man," mm. 1–9

The progression I–V–IV–I came into use in the mid-twentieth century through the blues, an American style that originated early in the twentieth century. The twelve-bar blues shown in Example 15.8 (mm. 2–13) ends with this I–V–IV–I progression, with sevenths added to the chords (as in most blues). Still, although plagal cadences may be used freely in a contemporary or popular style, when composing in common-practice style, write an authentic cadence first, and then expand the final tonic with plagal motion.

EXAMPLE 15.8: Phillips, "Blues for Norton," mm. 1–13 (plagal cadence)



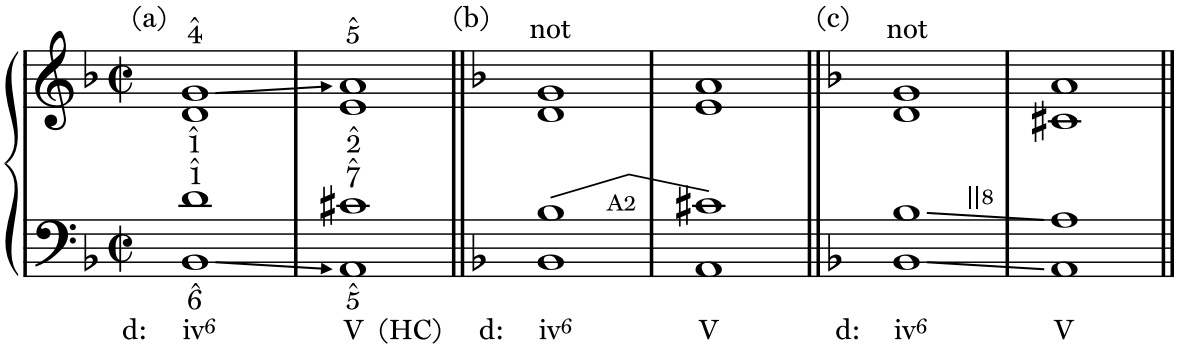
The Phrygian Cadence: iv^6–V

Another type of half cadence found in Baroque-era music features a iv^6 chord in a minor key as the predominant to V.

KEY CONCEPT The **Phrygian cadence**, always iv^6–V in minor, is named for its characteristic bass line: the half-step descent from ♭$\hat{6}$ to $\hat{5}$ (Example 15.9a). (Such a descent evokes the Phrygian mode, with its half step from ♭$\hat{2}$ to $\hat{1}$.) In addition:

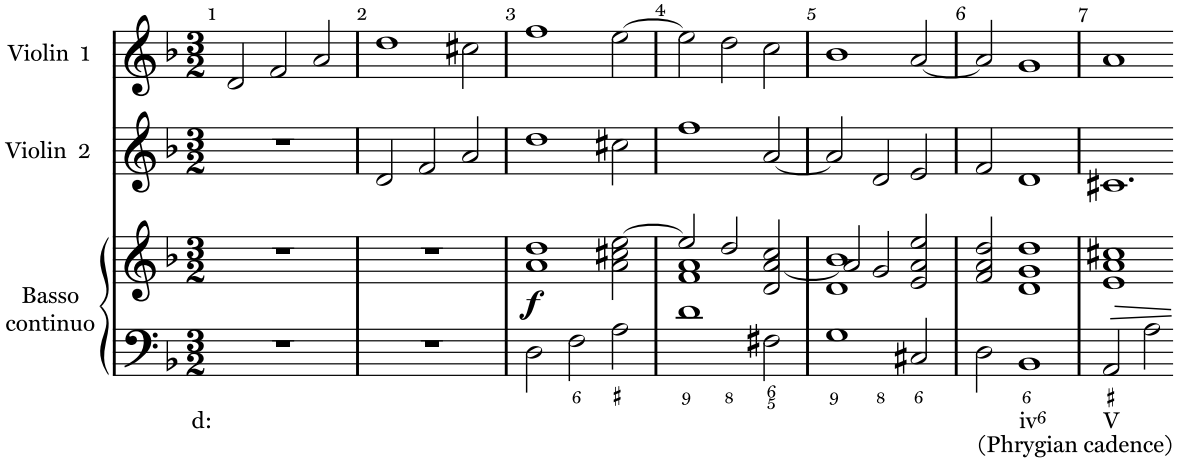
- The highest part normally moves $\hat{4}$–$\hat{5}$ (a whole step), approaching $\hat{5}$ in contrary motion.
- $\hat{1}$ is doubled in the iv^6; don't double ♭$\hat{6}$, as this leads to an A2 from ♭$\hat{6}$ to $\hat{7}$ (part b, tenor voice) or parallel octaves (part c, bass and tenor).

EXAMPLE 15.9: Part-writing the Phrygian cadence



Listen to Example 15.10, from Corelli's Preludio. The expressive opening of this D minor movement features 9–8 suspensions and a Phrygian cadence in measures 6–7, iv^6–V. The prelude also ends with a Phrygian cadence (anthology)—an inconclusive "conclusion" that sets up expectations on the part of the listener for the lively second movement.

EXAMPLE 15.10: Corelli, Preludio from Sonata in D Minor, mm. 1–7



SUMMARY

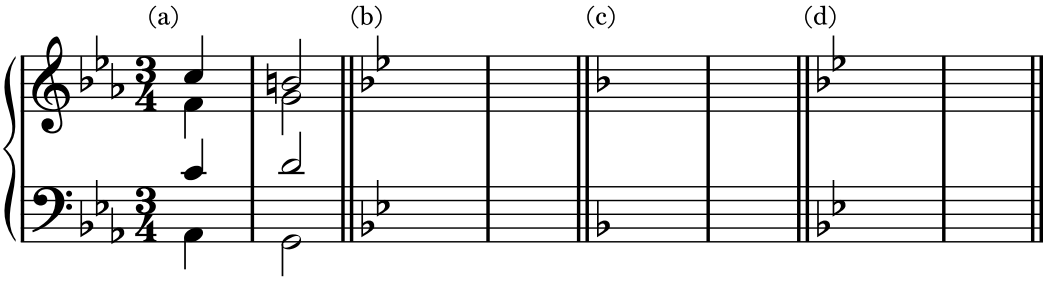
New cadence types:

- The deceptive cadence (V–vi or V–VI) avoids the expected tonic resolution.
- The plagal cadence (IV–I or iv–i; "Amen" cadence) prolongs the tonic area.
- The Phrygian cadence (iv^6–V) is a special type of half cadence.

Try it #1

Part-write each of the following two-chord cadences from the Roman numerals given. Use a rhythm of quarter note, half note. In the blank below the staff, write the name of the cadence (deceptive, Phrygian, or plagal).

Show answers



Cadence type: _____ _____ _____ _____

Basic Root Progressions

In tonal music, most of the connections between chords involve one of three basic root movements.

- **Descending fifth**: authentic cadences (V to I or i), for example, show a root motion from $\hat{5}$ to $\hat{1}$; even though the roots of these chords may not necessarily be in the bass, authentic cadences as a group can be thought of as descending-fifth root progressions.
- **Descending third**: we have seen this root progression in the tonic expansion I to vi, but it may be found in the predominant area of a phrase as well (IV to ii).
- **Ascending second**: connections between I and ii, IV and V, and V and vi are examples of this root progression, which typically connects two functional areas—tonic and predominant or predominant and dominant, for example.

Root Motion by Descending Fifth

The strongest root motion in tonal music is by descending fifth (or ascending fourth—you can think of those as interchangeable); it underlies the cadences introduced in Chapter 12 and many other standard progressions.

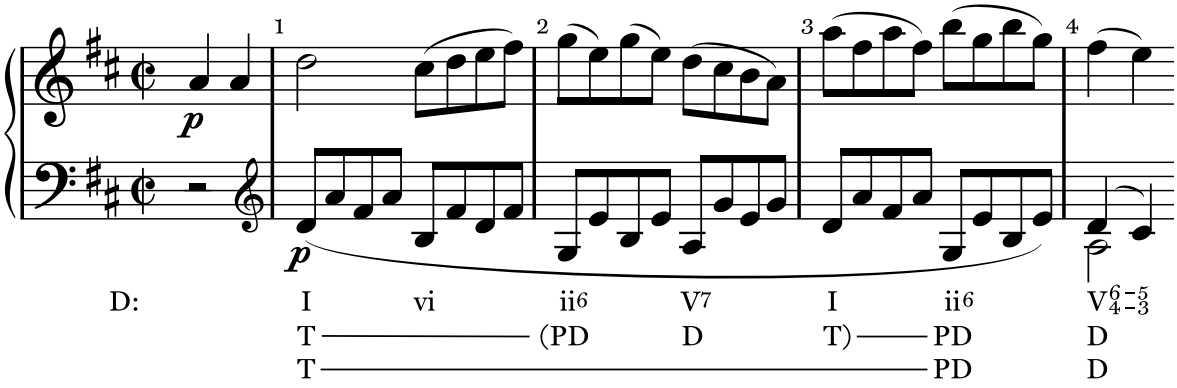
KEY CONCEPT The descending-fifth root progression may connect two chords, may form a chain of three or four chords, or may circle through all the diatonic chords in a key:
I–IV–vii°–iii–vi–ii–V–I in major keys,
i–iv–vii° (or VII)–III–VI–ii°–V–I in minor.

All the fifths between the roots of chords in the major-key chain are perfect except the one between IV and vii°, a diminished fifth (scale degrees $\hat{4}$ and $\hat{7}$). (Root position vii°

usually occurs only in descending-fifth progressions.) In minor keys, there are two possible diminished fifths because of the variable forms of $\hat{6}$ and $\hat{7}$: between iv and vii$^{\circ}$ and between VI and ii$^{\circ}$.

Listen to part of this chain in action in Example 15.11, a passage from a Mozart sonata. Beginning on the second beat of measure 1, Mozart employs the progression vi–ii^{6}–V^{7}–I, a four-chord segment from the end of the chain: here, the descending fifths form an embedded PD–D–T within the tonic area.

EXAMPLE 15.11: Mozart, Piano Sonata in D Major, mvt. 3, mm. 1–4



Not all the links in the descending-fifth chain are equally strong: for example, connections involving either the leading-tone or mediant triad rarely appear without the rest of the chain. Other than in sequences (Chapter 19), we don't normally find root motion by *ascending* fifth in tonal music, other than between the tonic and dominant.

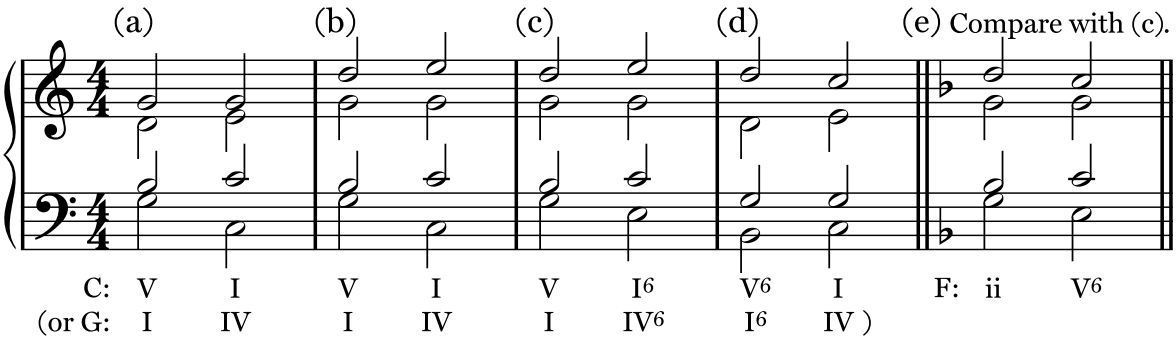
KEY CONCEPT Here are some of the most common descending-fifth progressions, and where they appear in the basic phrase model. These progressions are ubiquitous in all

styles of tonal music.

I–IV (or i–iv)	T–PD, or T expansion (the beginning or end of a phrase)
vi–ii (or VI–ii°)	PD area, with vi sometimes as a T expansion leading into PD
ii–V (or ii°–V)	PD–D
V–I (or V–i)	D–T (or as a T expansion)

Part-Writing Triads with roots a fifth apart share one chord member; for example, G-B-D and C-E-G share pitch class G. Example 15.12 illustrates how to connect these two chords. They could be functioning as V–I in the key of C major, as here, but they could also be I–IV in G major: the basic voice-leading connections are the same.

EXAMPLE 15.12: Connecting chords a fifth apart



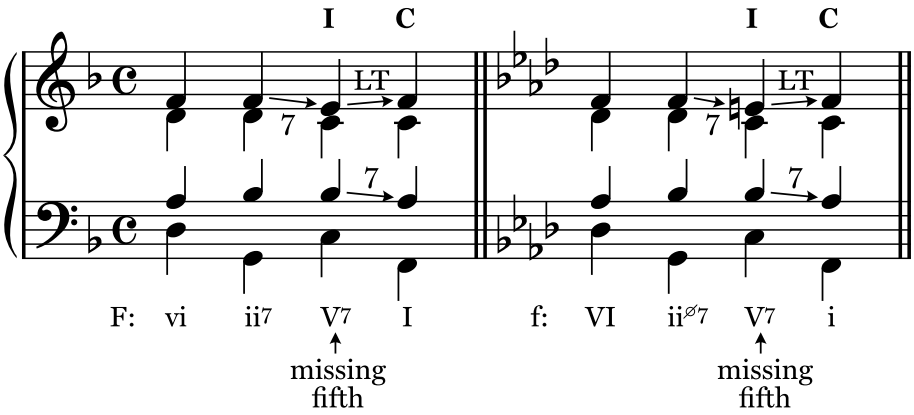
If we added a B♭ to the key signature to make the key of F major, the same voice-leading and doubling would apply for ii–V (G minor to C major) except in part (c), where there is a first-inversion C major chord; doubling the E would mean doubling the leading tone in F major (see part e). As always, observe the guidelines for doubling and resolving tendency tones within the key.

KEY CONCEPT A standard method of connecting triads with roots a fifth apart is to hold the common tone in the

same voice and move all the other parts to the closest possible chord member.

In some descending-fifth progressions, seventh chords may substitute for some of the triads: ii^{7} (or ii^{ø7}) and its inversions instead of ii (or ii^{o}), or V^{7} and its inversions instead of V—as in Example 15.13.

EXAMPLE 15.13: Descending-fifth progressions with seventh chords (I = incomplete; C = complete)



Though it is possible to substitute IV^{7} or vi^{7} (iv^{7} or VI^{7} in minor) in place of their triads, these chords are much less prevalent in eighteenth- and nineteenth-century music outside of descending-fifth chains or sequences (Chapter 19). When part-writing any nondominant seventh chord (such as ii^{7}, IV^{7}, and vi^{7}), remember that the chordal seventh should be approached by common tone or by step, and resolve down. Also remember that when root-position V^{7} moves to I (i), one chord must be incomplete and the other complete.

Root Motion by Descending Third

While root motion by fifth occurs almost exclusively in

descending progressions, root motion by third is possible both ascending and descending, with the latter the most typical. In these progressions, however, you don't usually find seventh chords.

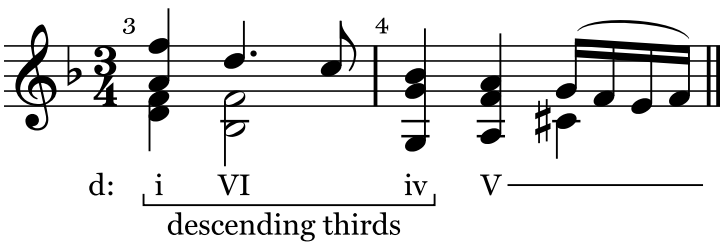
KEY CONCEPT The descending-third root progression can also form a chain:
I–vi–IV–ii–vii°–V–iii–I in major keys,
i–VI–iv–ii°–vii° (or VII)–V–III–i in minor.

Common root motion by thirds:

I–vi–IV	T expansion or T–PD
vi–IV–ii	PD area
ii–vii°^{6}	PD to weak D

In Example 15.14, from the beginning of his Chaconne in D Minor, Bach includes the first three chords of the chain.

EXAMPLE 15.14: Bach, Chaconne in D Minor, mm. 3–4

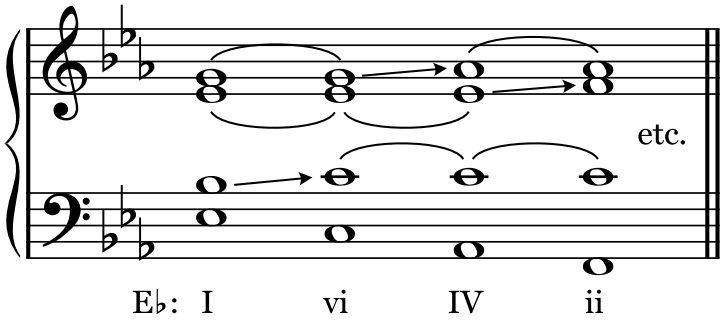


The last parts of the chain (vii°–V–iii–I) are rarely heard in common-practice progressions: instead, when the phrase reaches the dominant area, a cadence usually follows. The progression vii°–V is likewise rarely found if the texture of the music is chordal and the harmony changes on each chord. In pieces with a freer texture, though, you may encounter a dominant area that begins with vii° (or vii^{ø7} or vii°^{7}), then brings in ♯5̂ to make V or V^{7}. If all members of vii°^{7} and V^{7} are present,

the result is a V^7 with an additional third on top—a V^9 chord. In that case, the entire dominant area may be given one label: V^7 or V^9, as appropriate.

Part-Writing Triads whose roots are a third apart share two pitch classes; for example, C-E-G and A-C-E share C and E. Third progressions are usually voiced with the root of the chord doubled in the bass and in an upper part to maximize the common tones between each pair, as in Example 15.15.

EXAMPLE 15.15: Connecting chords by thirds



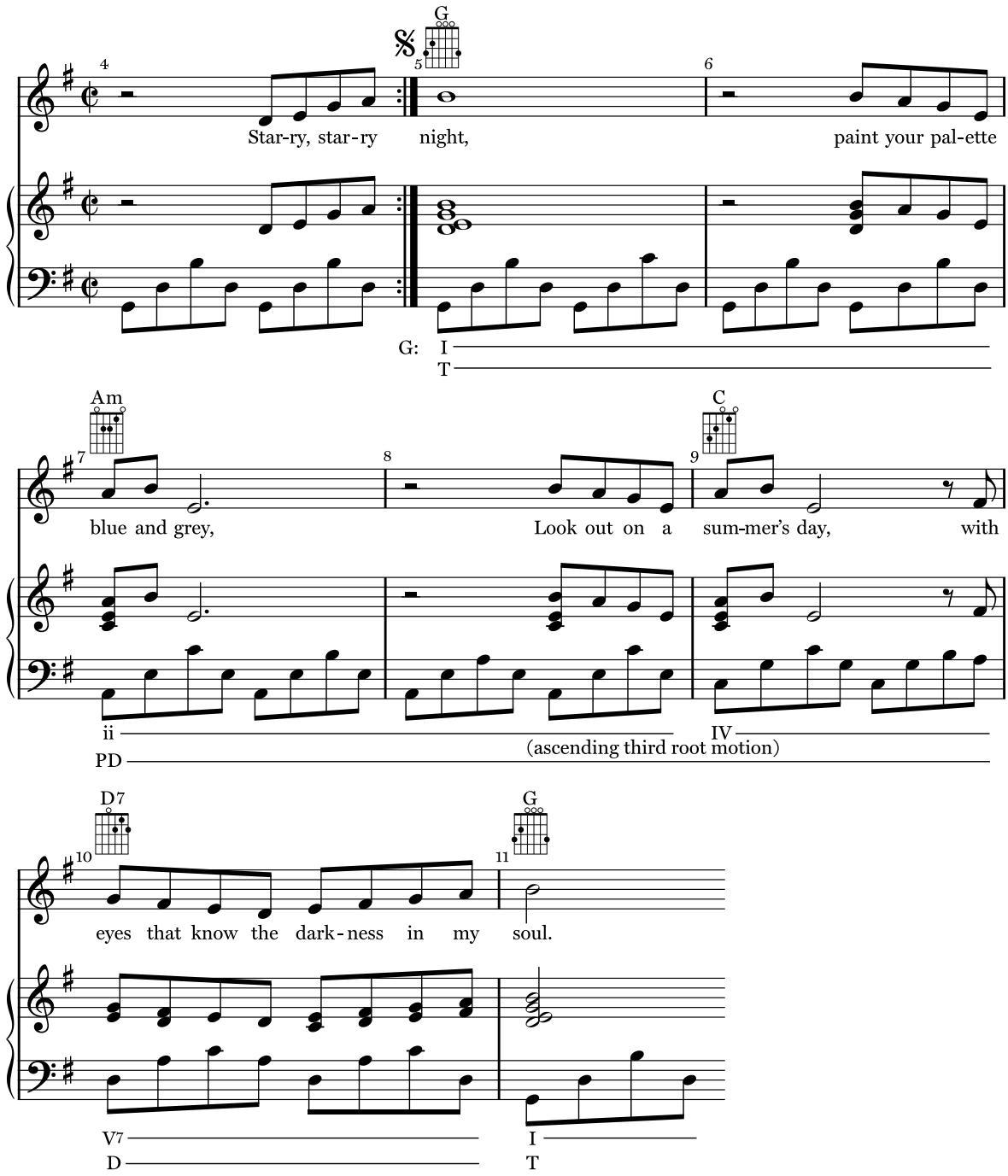
KEY CONCEPT When connecting chords with roots a third apart, hold the common tones and move the other parts to the next-nearest chord member. The chains made by ascending-third motion are:

- I–iii–V–vii°–ii–IV–vi–I in major keys,
- i–III–V–vii° (or VII)–ii°–iv–VI–i in minor.

Only a few of these connections are found in tonal music, and each plays a special role:

- I–iii — T expansion (discussed later in the chapter)
- vi–I — T expansion (relatively uncommon)
- V–vii° — D in freer textures where the root of the V drops out temporarily

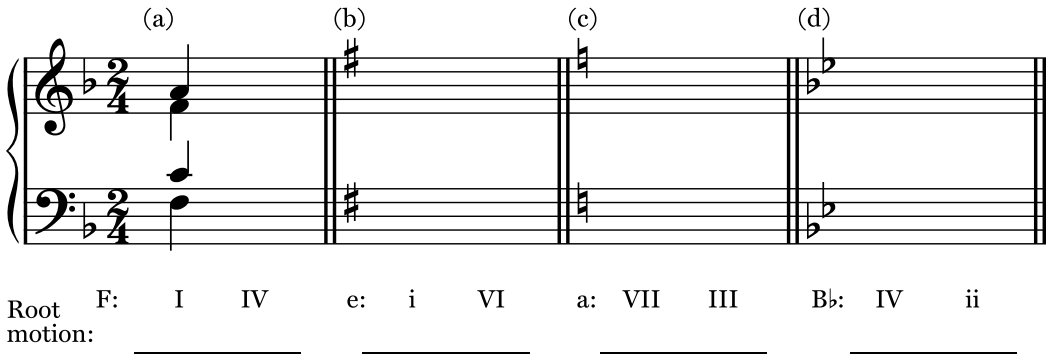
The others, however, may appear in contemporary pieces like "Vincent" (Example 15.16), whose verse expands the predominant area with the rising third ii to IV.

EXAMPLE 15.16: McLean, "Vincent," mm. 4–11

Try it #2

Part-write each of the two-chord pairs below using quarter notes. Label the root-motion type (desc. 5th or desc. 3rd), then circle the common tones between chords: one

common tone for descending fifth, two for descending third.

Show answers



Root Motion by Second

Root movement by second (most often ascending) typically connects functional areas in the basic phrase.

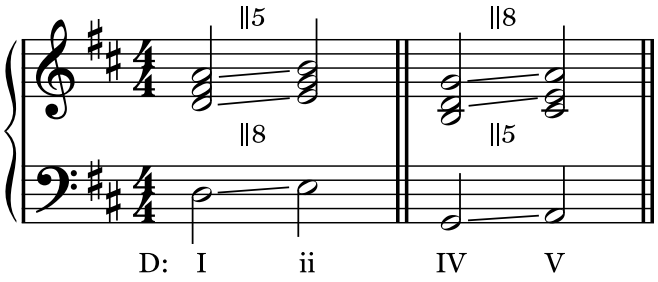
KEY CONCEPT Common second progressions:

I–ii (or i–ii°)	T–PD
IV–V (or iv–V)	PD–D
I–vii° (or i–vii°)	T–D (with a dominant substitute)
vii°–I (or vii°–i)	D–T (with a dominant substitute)
V–vi (or V–VI)	D–T (with a tonic substitute)

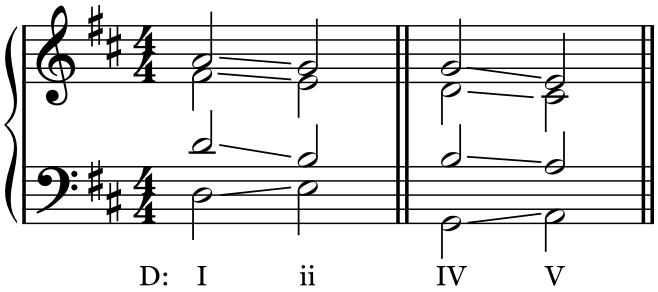
The most direct way to connect chords with roots a second apart would be simply to shift the entire chord up or down a step. While this type of connection is sometimes found in twentieth-century music, folk-style accompaniments, and popular music, common-practice composers usually avoided it because of the parallel fifths and octaves that would result (Example 15.17a). With these parallels, you may possibly hear only one melodic line, doubled by triads, rather than four fully independent voice-leading strands.

EXAMPLE 15.17: Chord progressions with roots a second apart

(a) Parallel motion (avoid)



(b) Contrary motion (good)



KEY CONCEPT Chords with roots a second apart are responsible for most parallel-fifth and parallel-octave errors in part-writing. Move the upper parts in contrary motion to the bass line (Example 15.17b) to avoid them.

You could also invert one or more of the chords, but check the voice-leading carefully. If there are still parallels in a progression with inversions, changing the doubling in one of the chords may correct the problem.

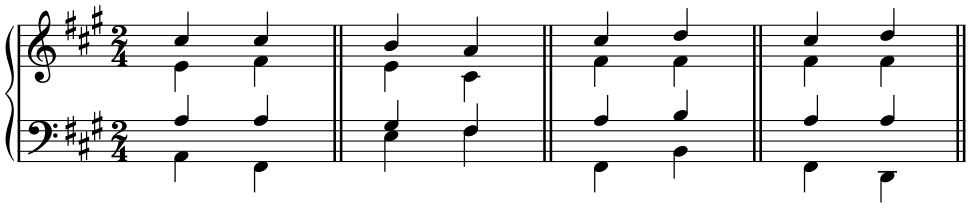
Try it #3

Try it #3

Provide Roman numerals and figures for the two-chord pairs below, and identify the root motion in the blanks. Below the blanks, add a contextual analysis showing the function of the submediant in each pair: tonic (T), tonic substitute (Ts), or predominant (PD).

A

Show answers



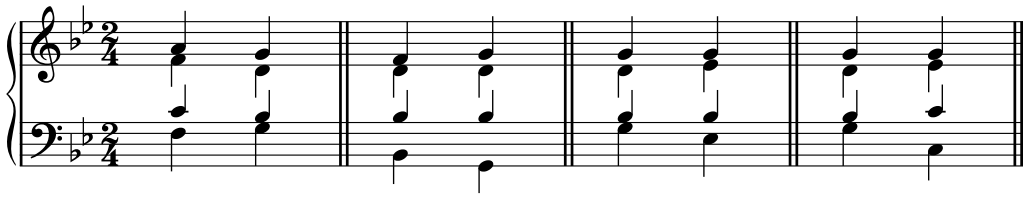
A: I vi

Root motion: desc. 3rd _____ _____ _____

T ———

B

Show answers



B♭:

Root motion: _____ _____ _____ _____

Other Diatonic Harmonies

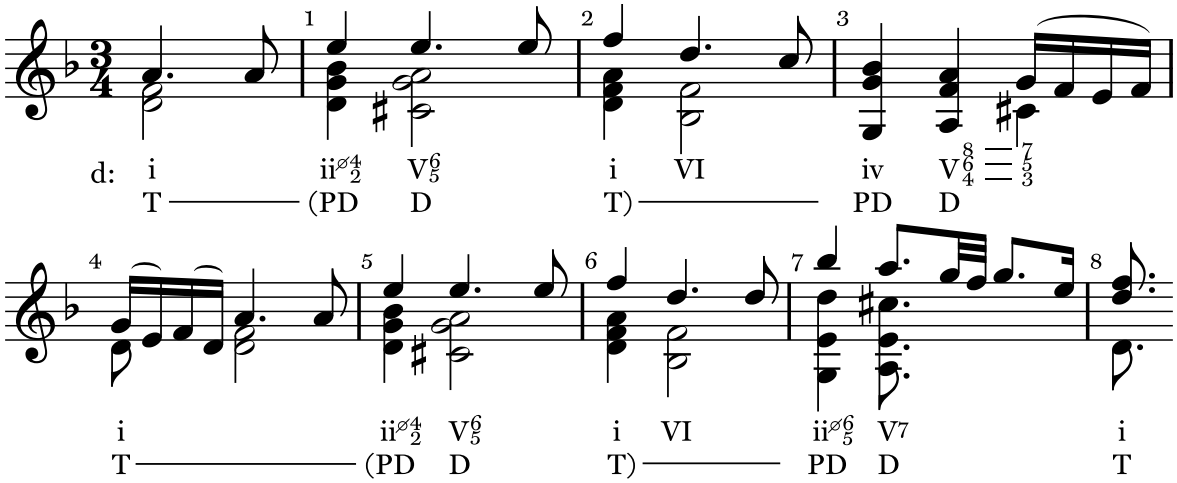
About Mediant Triads

The mediant triad, consisting of $\hat{3}$, $\hat{5}$, and $\hat{7}$, shares two scale degrees with the tonic ($\hat{3}$ and $\hat{5}$) and two with the dominant ($\hat{5}$ and $\hat{7}$). Because they sound a little like both chords, mediant triads don't fit cleanly into either the tonic- or dominant-function areas. Root progressions connecting a mediant triad to a dominant-function chord (V^7 or vii°) are rare. If sometimes you come across what seems to be one of these progressions, closer inspection usually reveals that the apparent mediant triad is not a "real" chord, but a dominant-function harmony where not all the chord tones sound at the same time.

Look at the opening of Bach's Chaconne in Example 15.18. All the chords except for one are readily accounted for. In measures 0–1 and 4–5, the i to $ii^{\varnothing 4}_{2}$ is a root progression by ascending second. The $ii^{\varnothing 4}_{2}$–V^{6}_{3}–i (mm. 1–2, 5–6) then progresses by descending fifth. Within a slightly larger context, the opening i–$ii^{\varnothing 4}_{2}$–V^{6}_{3}–i can be considered an expansion of the tonic, with an embedded PD–D–T; the inversions give these chords a linear function. The i–VI–iv (mm. 2–3) is by descending third.

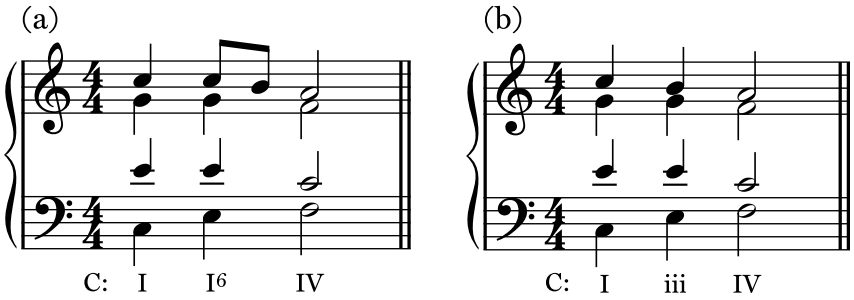
The chord on beat 2 in measure 3 may seem at first to be a III, progressing to vii° on the next beat. But a consideration of the context reveals otherwise: this piece is based on a four-measure repeating harmonic pattern that starts with an anacrusis (a chaconne always involves a repeated harmonic progression). If you compare the corresponding measures 3 and 7, it becomes clear that the apparent III–vii° is really a V^7 in which all the chord members simply arrive at different times. Some listeners may also hear beat 2 in measure 3 as a cadential $^{6}_{3}$ (without scale degree $\hat{1}$).

EXAMPLE 15.18: Bach, Chaconne in D Minor, mm. 1–8



The mediant may serve as part of a tonic expansion at the beginning of a phrase (I–iii or i–III), though it is less effective as a tonic substitute than the submediant, which shares $\hat{1}$ with the tonic. The progression I–iii may be considered a variation of I–I^{6} (Example 15.19a); here the mediant triad results from linear motion from $\hat{1}$ to $\hat{7}$ in the top part, where the tonic note "disappears" temporarily. Any predominant chord that can follow a I^{6} may follow the apparent iii, but take care to avoid parallel octaves or fifths (as the example does); the most frequently used version of this progression in major keys, which is still rare, is shown in part (b), the opening progression of Peter, Paul and Mary's "Puff the Magic Dragon": I–iii–IV.

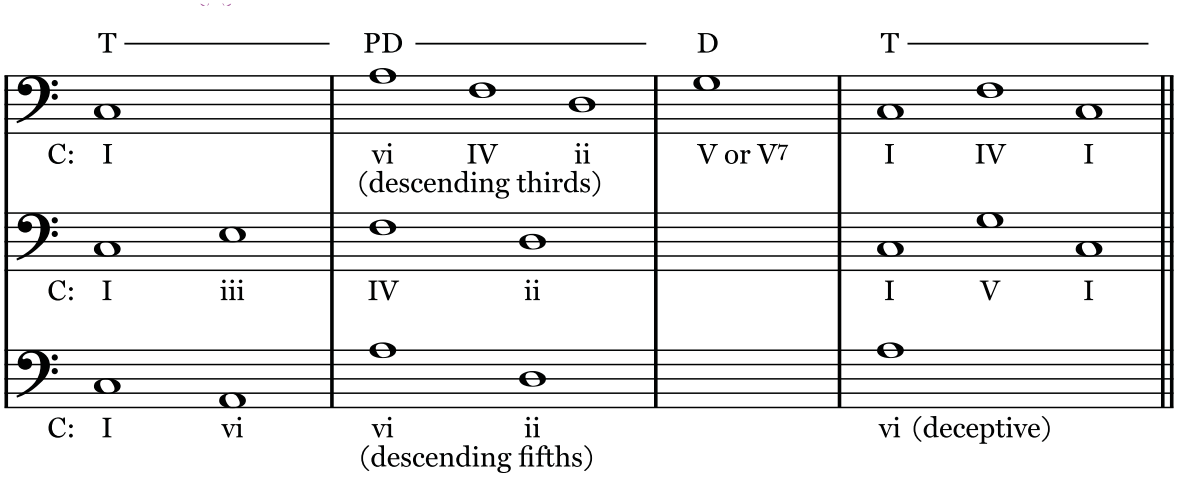
EXAMPLE 15.19: Voice-leading for I–iii–IV



KEY CONCEPT In general, when tempted to part-write or analyze a chord in common-practice music as iii (in major), give the context further thought. Most likely what you need or hear is either a I or a V chord. The only place where you find iii is in a I–iii–IV progression at the beginning of a phrase, setting a $\hat{1}$–$\hat{7}$–$\hat{6}$ soprano line, or in a sequence (see Chapter 19).

The chart in Example 15.20 summarizes the progressions in major that have been discussed in this chapter, and how they fit into the basic phrase model. Any chord(s) in the first T column may move on to any in the PD column, then to the cadential D–T columns.

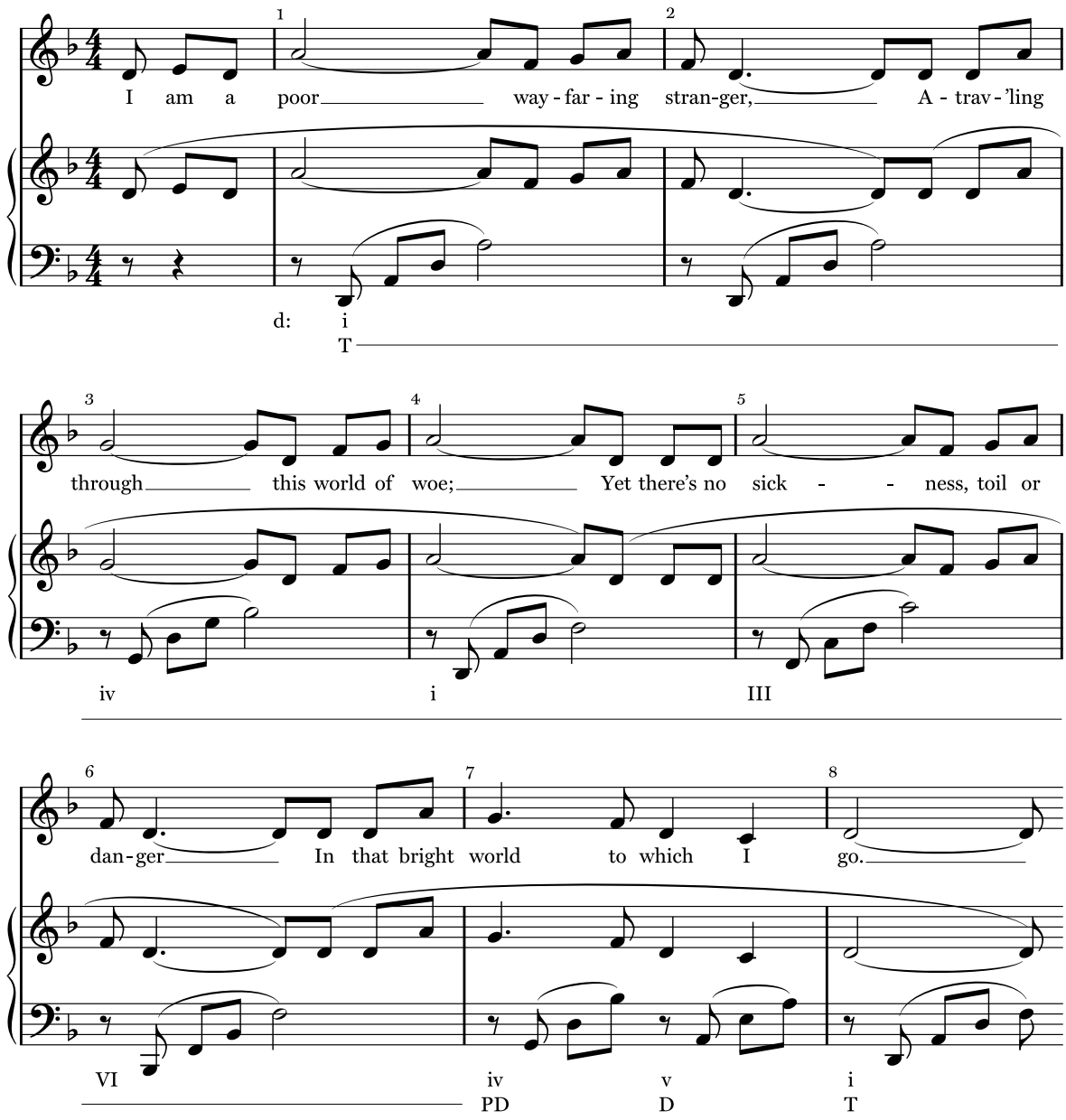
EXAMPLE 15.20: Basic phrase model chart for root progressions and the mediant



The Mediant and Minor Dominant in Minor Keys

In minor keys, III forms a special relationship with VI (submediant) and VII (subtonic): these three chords possess the same qualities as I, IV, and V in the relative major key (for example, in A minor, the triads on C, F, and G sound like I, IV, V in C major). They are sometimes combined in progressions that temporarily evoke the relative major key; in particular, VII–III sounds like V–I in the relative major. (We will consider these further in Chapters 21 and 22.)

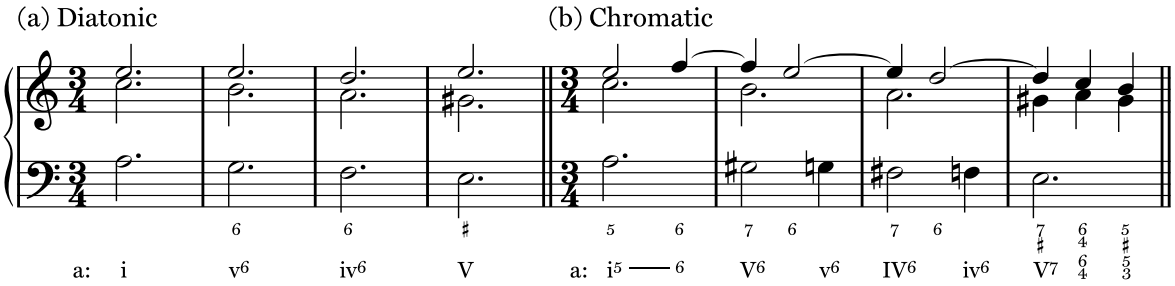
The descending-fifth progression III–VI appears in the modal folk tune "Wayfaring Stranger," which also features another harmonic possibility for this style: the minor dominant. Listen to Example 15.21, and examine the Roman numeral analysis. The first four measures express a i–iv–i tonic expansion, while the cadence (mm. 7–8) enlists the minor dominant. The III–VI in measures 5–6 echoes the i–iv transposed up a third (or in the relative major).

EXAMPLE 15.21: "Wayfaring Stranger," mm. 1–8

I am a poor way - far - ing stran-ger, A - trav - 'ling
through this world of woe; Yet there's no sick - - ness, toil or
dan-ger In that bright world to which I go.
d: i
T
iv i III
VI iv v i
PD D T

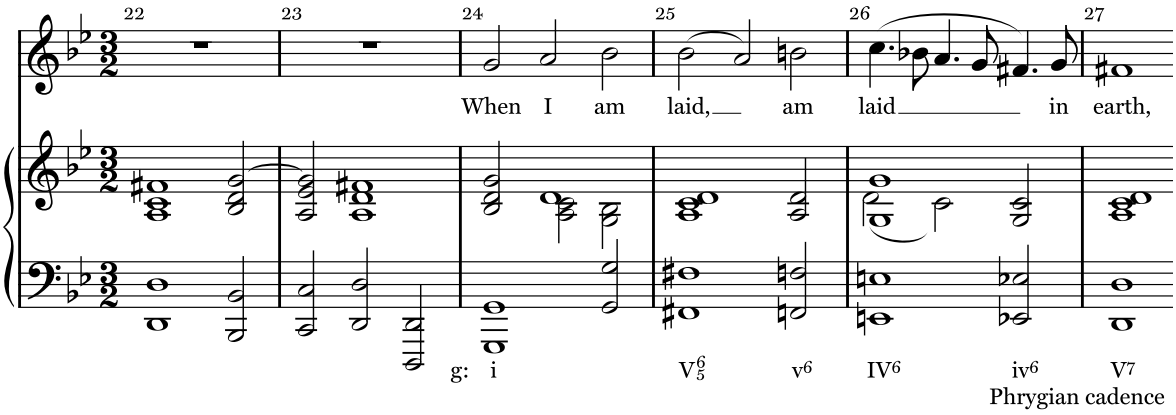
Another place you are likely to encounter the minor v is in the **lament bass** progression, shown in both a diatonic and chromatic version in Example 15.22; the chromatic version (part b) incorporates both passing chromatic notes in the bass and 7–6 suspensions in the melody. This progression, dating back to the seventeenth century, has appeared in works from Purcell's "Dido's Lament" (1689) to such popular songs as Kanye West's "Stronger" (2007) and The White Stripes' "Dead Leaves and the Dirty Ground" (2002). In "Dido's Lament" (Example 15.23), the

progression includes harmonized chromatic passing tones in the bass that yield first V^6_3 then v^6, IV^6 then iv^6 before reaching the dominant at the Phrygian cadence in measure 27.

EXAMPLE 15.22: The lament bass progression



EXAMPLE 15.23: Purcell, "Dido's Lament," mm. 22–27



KEY CONCEPT Minor dominant chords (v) are used in three different contexts:

- In folk songs or popular styles with a modal or folk sound, minor v can appear throughout, even at a cadence, instead of V.
- In common-practice music, they are occasionally found at the

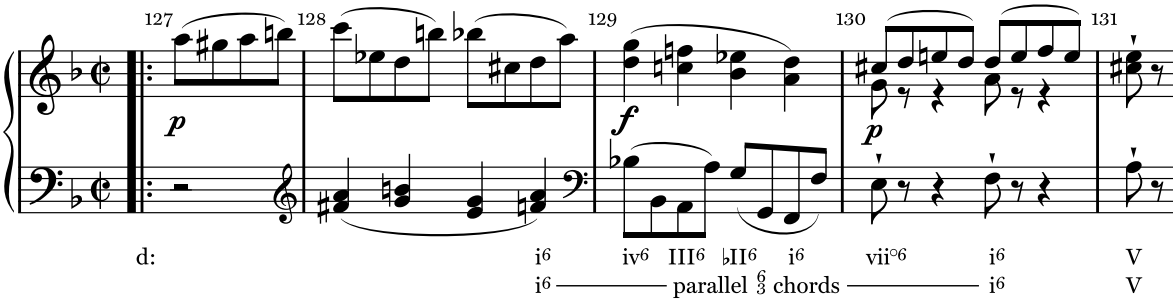
beginning or in the middle of a phrase in minor keys, where minor v temporarily evokes the sounds of modal composition, but not at cadences, where the leading tone is a necessary ingredient.

- In the lament bass, the progression i–v^6–iv^6–V is the foundational progression for diatonic and chromaticized versions.

Parallel $\frac{6}{3}$ Chords

Another way that the minor dominant and mediant triads may appear in music literature is in a stream of parallel $\frac{6}{3}$ chords. In passages like these, the contrapuntal motion of parallel sixths and thirds, rather than principles of root motion, controls the chord succession. Example 15.24 (m. 129) shows an example of the mediant in a stepwise descent of $\frac{6}{3}$ chords (the ♭II^6 chord will be discussed in Chapter 27 in connection with chromatic harmony).

EXAMPLE 15.24: Mozart, Piano Sonata in D Major, mvt. 3, Variation VII, mm. 127–131



Minor-key parallel $\frac{6}{3}$ chord successions including the minor dominant are i–v^6–iv^6–III^6 and i–v^6–iv^6–V, where V replaces III^6 (see Example 15.22a). Both harmonize the bass line $\hat{1}$–$\flat\hat{7}$–$\flat\hat{6}$–$\hat{5}$ of

the descending melodic and natural minor scales. To analyze a passage with parallel $\frac{6}{3}$ chords, assign Roman numerals only to the beginning and end of the chord succession and write $\frac{6}{3}$ figures in between, rather than giving each chord a Roman numeral. Parallel $\frac{6}{3}$ chords are also used in major keys, where V^6 –IV^6 is typically followed by V instead of iii^6.

Did You Know?

Musicians first began describing chord connections by root motion in the mid-eighteenth century. Jean-Philippe Rameau (1683–1764), who brought the ideas of the invertible triad and seventh chord to the fore, also had a theory of how chords were connected. He thought of all chords as being connected in "cadences" by the root motion of a fifth, like our authentic cadences. But he did not limit the idea of cadence to the ends of phrases: all chord connections with roots a fifth apart were cadences to Rameau. When a chord connection did not fit his model—for example, the connection between I and ii^6—he theorized that the $\hat{4}$ in the bass of the ii^6 was the "real" root, and that the connection was a descending fifth from $\hat{1}$ to $\hat{4}$. From Rameau's attempts to make all progressions conform to the strong descending-fifth root motion, later theorists such as Hugo Riemann developed the idea of chord substitutes—for example, the idea that ii^6 can substitute for IV.

TERMS YOU SHOULD KNOW

ascending-second progression
deceptive cadence
deceptive resolution
descending-fifth progression
descending-third progression
dominant substitute (Ds)
parallel $\frac{6}{3}$ chords
Phrygian (half) cadence
plagal cadence
root progression

QUESTIONS FOR REVIEW

1. Where are deceptive cadences typically found? How do they differ from deceptive resolutions? What type of effect do they create?
2. Where are plagal cadences typically found? What type of effect do they create?
3. How does a Phrygian cadence differ from other types of half cadences? What gives it its distinctive sound (and name)?
4. What are the chords in a descending-fifth chain? Where are the “weak links”?
5. What are the chords in a descending-third chain? Where are the “weak links”?
6. Why are root progressions by second not generally found in chains? Where might you see them?
7. What part-writing guidelines should you follow for

descending-fifth progressions? descending-third? ascending-second?

8. How are mediant triads used? How can you distinguish an apparent mediant from a real one?
9. In what contexts may minor dominant chords appear in common-practice style? In what other styles might you hear them?

Know It? Show It!

Focus by working through the tutorials.

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Apply what you've learned to complete the workbook assignments.

16 Embellishing Tones

Outline

Embellishing a harmonic framework
- Passing and neighbor tones in chorale textures

More on suspensions
- Suspensions in four parts
- Suspensions with change of bass
- Combining suspensions
- Embellishing suspensions
- Retardations

More on neighbor and passing tones
- Chromatic neighbor and passing tones
- Incomplete neighbors
- Double neighbors
- Passing tones, chordal skips, and scales

Other types of embellishments
- Anticipations
- Pedal points

Embellishing tones in popular music

Overview

Here, we revisit embellishing tones to adapt concepts learned in species counterpoint to three- and four-part writing. We also explore chromatic versions of familiar embellishments and learn several new types.

Repertoire

Johann Sebastian Bach
- "Aus meines Herzens Grunde" ("From My Inmost Heart," Chorale No. 1)
- "Christ ist erstanden" ("Christ Is Risen," Chorale No. 197)
- "Heut' ist, o Mensch" ("This Day, O Mankind," Chorale No. 168)
- "Liebster Jesu" ("Dearest Jesus," Chorale No. 131)
- "O Haupt voll Blut und Wunden" ("O Head Full of Blood and Wounds," Chorale No. 74)
- Invention in D Minor
- Prelude in C Major, from *The Well-Tempered Clavier*, Book I
- Prelude in E-flat Major for Organ (*St. Anne*)

John Bettis and Jon Lind, "Crazy for You"

Johannes Brahms, *Variations on a Theme by Haydn*

George Frideric Handel, Chaconne in G Major

Freddie Mercury, "Bohemian Rhapsody"

Wolfgang Amadeus Mozart
- Minuet in F Major, K. 2
- Piano Sonata in D Major, K. 284, mvt. 3
- *Variations on "Ah, vous dirai-je Maman"*

Henry Purcell, "Music for a While"

Embellishing a Harmonic Framework

While focusing on simple chordal textures is the clearest way to learn about four-part harmony, very few pieces rely solely on a succession of block chords. Much of the beauty and inventiveness of musical composition lies in how composers embellish melodic lines or chord successions. Because the pitches that embellish a musical line are usually not members of the underlying harmony, some textbooks call them "nonharmonic" or "nonchord" tones. The term "embellishing tone," on the other hand, highlights their musical function.

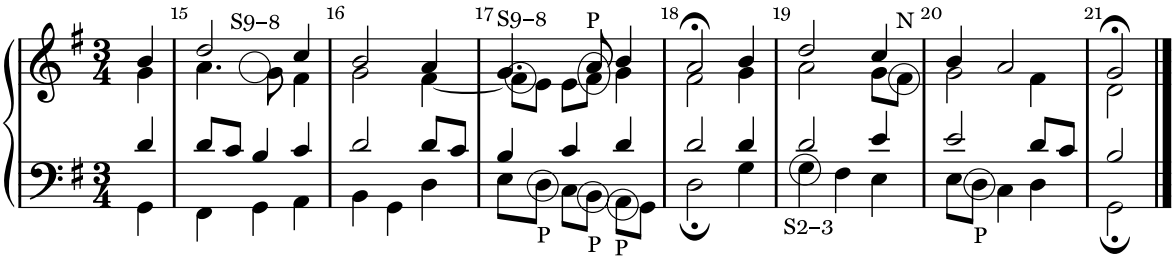
KEY CONCEPT As we have seen, **embellishing tones**, pitches from outside the underlying harmony, decorate chord tones in specific ways (e.g., as passing tones, neighbor tones, or suspensions). Though they may be consonant or dissonant, the majority are dissonant, adding flavor and interest to the consonant intervals in the chords.

Embellishing tones have expressive potential for performance: you can add accents or subtle changes in timing, for example, to emphasize the tension of a dissonant embellishment and its resolution to a more stable consonance. Identifying them can also clarify a harmonic analysis: you may otherwise find it difficult to supply a Roman numeral to a harmony that includes unexplained extra pitches. Indeed, some "chords" are simply collections of embellishing tones. For this reason, beware of analyzing harmonies by taking vertical "snapshots" of each beat, stacking the pitches in thirds and then applying a Roman numeral; besides being misleading, this procedure is not very musical. Instead, spend some time listening to the passage to decide which pitches are structural and which are embellishing. If in doubt, leave out the pitch in

question to see if the chord makes sense within the phrase.

Listen now to the last two vocal phrases of Bach's chorale "Aus meines Herzens Grunde" (Example 16.1), and examine the circled embellishing tones: passing tones, neighbor tones, and suspensions.

EXAMPLE 16.1: Bach, "Aus meines Herzens Grunde," mm. 14–21



Sometimes only one voice at a time includes an embellishing tone (as in mm. 19 and 20); in such cases, the harmonic progression is clear and the embellishments are relatively easy to identify. In other cases, embellishments may be active in more than once voice. In measure 17, for example:

- The first chord is a vi (E-G-B), but the alto has an F♯ tied over from the previous beat to make a 9–8 suspension.
- The chord on beat 2 is a IV (C-E-G), with unaccented passing tones on the second half of the beat in the soprano, alto, and bass connecting to the tonic chord (G-B-D) on beat 3. The upper two parts move here as simultaneous passing tones in parallel thirds (following the principles of good counterpoint), while the bass travels in contrary motion from C3 (the root of the IV chord) down to G2 (the root of the I chord), requiring an *accented* passing tone on beat 3.

It may take a little detective work to identify other embellishing tones. For instance:

- In measure 15, the D4 in the tenor on beat 1 is repeated from

the previous chord; it might at first look like a rearticulated suspension, which resolves downward to C4.

- Alternatively, the C4 might be a passing tone.
- Yet a consideration of the harmonic context indicates that both the D and C are part of the chord, a V^{6}_{5} in G major, where the seventh enters after the beat.

The following chord (m. 15, beat 2) is a I (G-B-D), with an alto A4 hanging over from beat 1, making a 9–8 suspension. The rhythmic pattern in measure 20, beats 2 and 3, might similarly suggest a pair of suspensions—but all these notes are chord members. If you are unsure of an embellishing tone in analysis, try playing through (or listening to) the passage; your ear is your best guide.

Passing and Neighbor Tones in Chorale Textures

The most important step in writing passing tones, neighbor tones, and suspensions does not involve the embellishments at all. It is rather establishing a strong and well-conceived harmonic framework: appropriate chord progressions, following the basic phrase model and standard expansions of tonal areas, and good voice-leading in each part. Adding embellishments will not correct a faulty framework. Conversely, poorly chosen embellishing tones can create harmonic or voice-leading problems even if the original framework is sturdy.

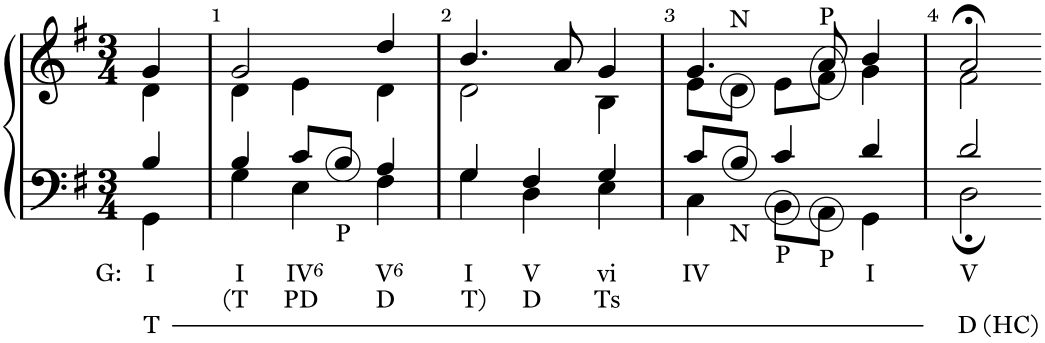
As in species counterpoint, most passing and neighbor tones in chorale textures are unaccented: they provide rhythmic interest and a temporary element of dissonance. Those that are accented have a stronger, harsher sound, and may obscure the chord progression if not placed properly. An accented passing tone usually follows an unaccented one to fill in a skip of a fourth—as in Example 16.1, measure 17, where the bass's A2 (accented) on beat 3 together with the preceding B2 fills in the fourth from C3 to G2. This type of accented passing tone

usually appears later in a measure rather than on the downbeat.

KEY CONCEPT Passing and neighbor tones can be written in any voice and are usually unaccented, but four-voice textures offer opportunities for accented passing or neighbor tones as well.

Passing or neighbor tones may appear at the same time in two voices in parallel sixths or thirds, as in measure 3 of Example 16.2, where there are also simultaneous passing tones in contrary motion near the end of the measure (soprano-alto-bass). The F♯-A-C in measure 3 on the "and" of beat 2 could be heard as a vii°6—as a harmony lasting only one eighth note (in the progression IV–vii°6–I)—or simply labeled as linear embellishments (an "embellishing chord") leading to the tonic that precedes the half cadence. We show it here as passing because of the prevailing quarter-note harmonic rhythm. Consider the harmonic rhythm and whether the proposed Roman numeral fits into a stylistically appropriate chord progression when you label such "chords."

EXAMPLE 16.2: Bach, "Aus meines Herzens Grunde," mm. 1–4



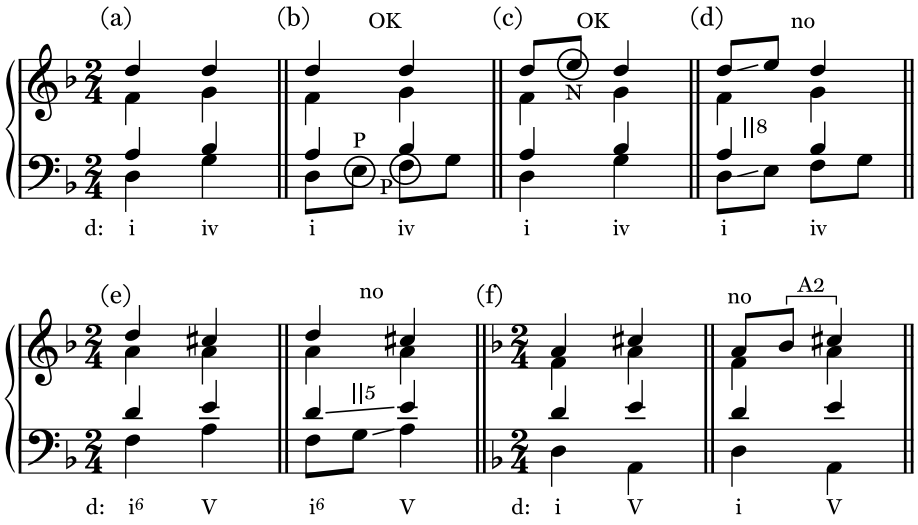
Before adding embellishing tones to a progression, first make

sure the part-writing, doubling, and spacing are correct in the progression. Then examine the voice-leading in each part. Where you see a

- skip of a third, consider adding a passing tone;
- skip of a fourth, consider adding two passing tones—one unaccented and one accented;.
- repeated pitch, consider adding a neighbor tone;
- descending step, you may be able to add a suspension.
- Check the intervals made by any embellishing tone to confirm that its addition does not create voice-leading problems, such as parallel fifths or octaves, or inappropriate melodic or harmonic intervals (melodic A2 or d5, or unresolved A4).

In Example 16.3a, for example, there is a fourth in the bass line; in part (b), we have added two passing tones, one unaccented and one accented. Another alternative, in part (c), is to add a neighbor tone to the soprano. Part (d), though, shows what happens if you try to combine these two embellishments: parallel octaves between soprano and bass. More problems arise in part (e), where the passing tone creates parallel fifths between bass and tenor, and in (f), where the passing tone creates an A2 in the soprano.

EXAMPLE 16.3: Adding passing and neighbor tones

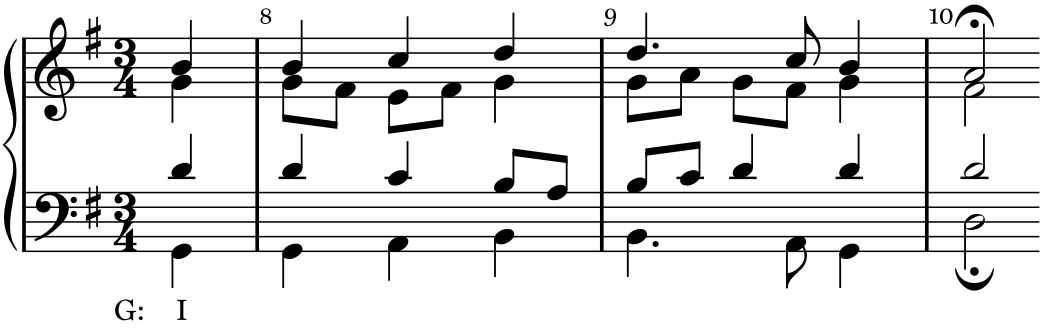


Try it #1

Circle and label all embellishing tones in the chorale excerpt below. Then provide a Roman numeral and contextual analysis below. Label the cadence.

Show answers

Bach, "Aus meines Herzens Grunde," mm. 8–10



More on Suspensions

Suspensions in Four Parts

Many of the guidelines for suspensions in two-voice species counterpoint apply in fuller textures as well, including the three-step process for writing them:

(1) write a consonant preparation of the tone to be suspended;

(2) retain that tone as a dissonance on a strong beat; and

(3) resolve the suspended tone down by step to a consonant interval.

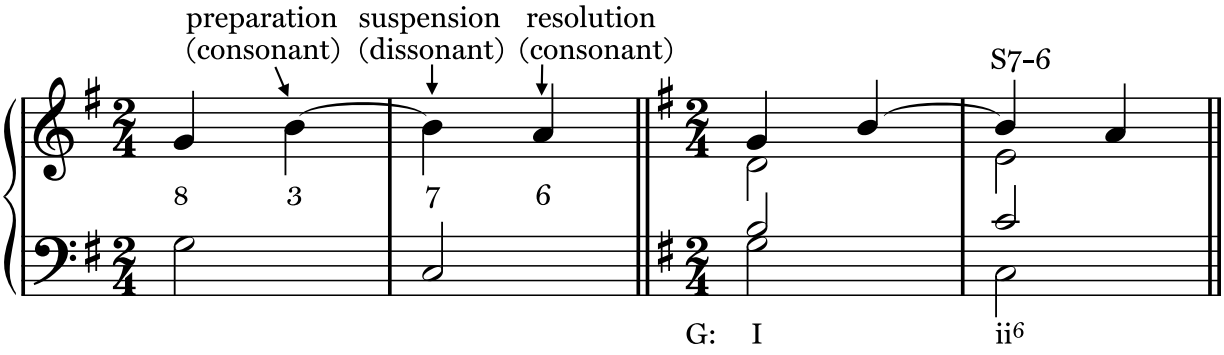
As in two-voice writing, the suspended note may be tied to its preparation or rearticulated (without the tie).

In music with more than two voices, the intervals specified by the suspension are calculated from the bass to the suspended voice, and thus suggest the appropriate inversion for the triad of resolution. For example:

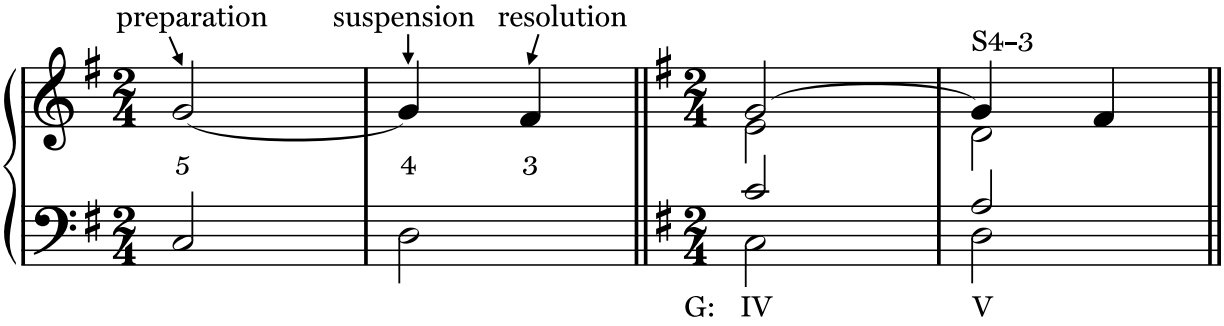
- the 7–6 suspension usually resolves to a first-inversion chord (hence the 6 in the name), as in Example 16.4a;
- the 4–3 and 9–8 usually resolve to a root-position chord (parts b and c), though first inversion is also possible; in (c), for example, you could replace the G in the chord of resolution with an A);
- the 4–3 suspension is frequently placed over the dominant harmony in authentic cadences, where it temporarily displaces (and thus draws attention to) the leading tone (part b).

EXAMPLE 16.4: Two-voice suspensions converted to four voices

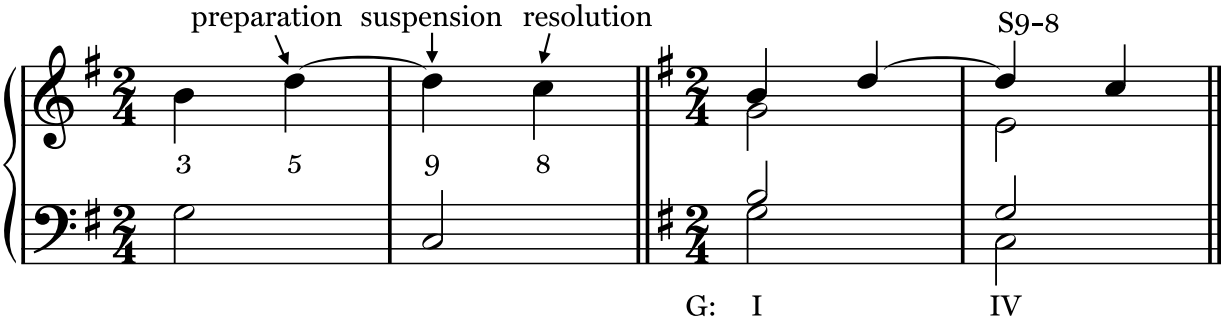
(a) 7–6 suspensions resolve to a first-inversion triad.



(b) 4–3 suspensions usually resolve to a root-position triad.



(c) 9–8 suspensions usually resolve to a root-position triad.



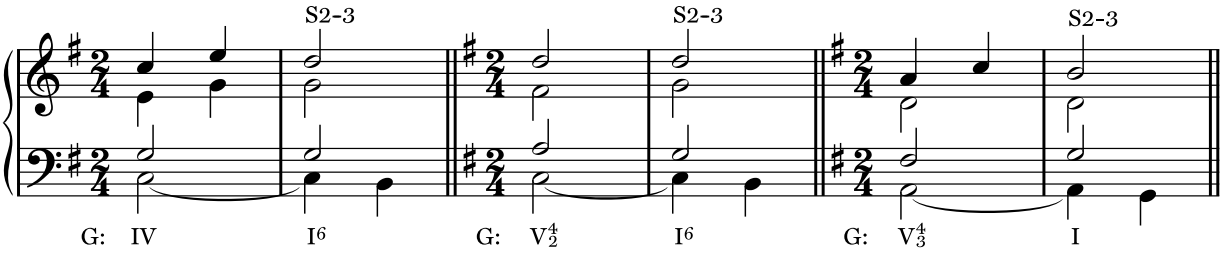
As Example 16.4 shows, in 7–6 and 4–3 suspensions, the note of

resolution (the 6 or 3) is not included elsewhere in the chord (e.g., in a 4–3, the third above the bass does not appear elsewhere in the chord—this is especially important when that note is the leading tone!). With the 9–8, however, the note of resolution (the 8) will be doubled in the bass.

KEY CONCEPT When writing a suspension in three or more voices, plan the doubling in the chord of resolution first, so that the resolved note is not doubled in that chord (except in the 9–8 suspension).

In most dissonant suspensions, one of the upper voices is suspended, but the opposite is also possible: the bass may be suspended against the upper voices of a chord. The bass suspension 2–3 (or 9–10) (Example 16.5) resolves to either a first-inversion or root-position triad.

EXAMPLE 16.5: Bass suspension in four voices

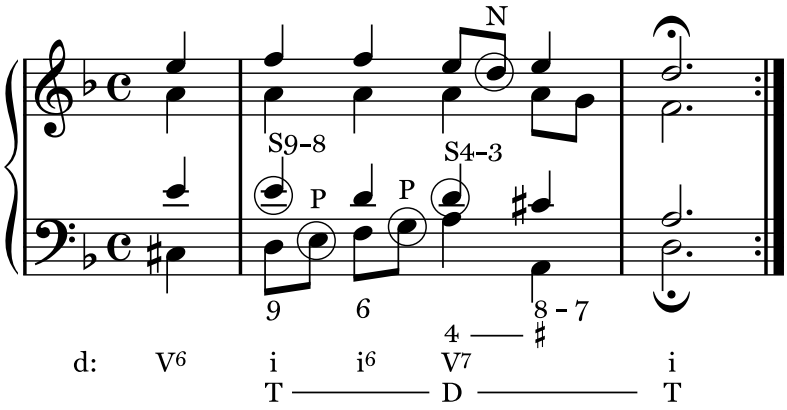


Finally, although our focus is on dissonant suspensions, consonant suspensions above the bass, such as the 6–5, may also be found in four voices. In such cases, analyze with the Roman numeral of the triad of resolution (the 6 is not a chord member).

Suspensions with Change of Bass

In Baroque-era compositions with an active bass line, sometimes the bass note changes before a suspension in an upper part resolves. Listen to Example 16.6, paying close attention to the tenor part in the first two beats of measure 3.

EXAMPLE 16.6: Bach, "O Haupt voll Blut und Wunden," mm. 2–4



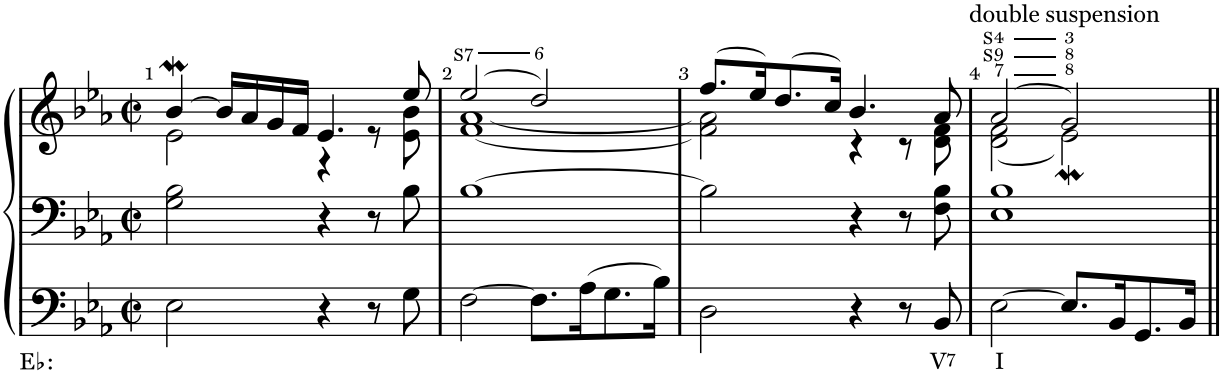
The tenor's E4 in the dominant anacrusis is suspended into the tonic harmony on the downbeat of measure 3. On beat 2, when this 9–8 suspension resolves, the tonic harmony changes inversion as the bass moves from D3 via passing tone to F3. The tone of resolution is present in the bass on beat 1 (D3), which is typical of 9–8 suspensions, but the change of bass results in a doubled third in the actual chord of resolution and the interval of a 6 instead of 8 between tenor and bass. The figures 9 6 should be read as one unit: a 9–8 suspension with change of bass (not a ninth chord followed by a triad). The change of bass, while making a more interesting bass line, does not disrupt the effect of the suspension.

Combining Suspensions

The opening of Bach's *St. Anne* Prelude is characterized by dotted rhythms and prominent suspensions, as you can see

from Example 16.7.

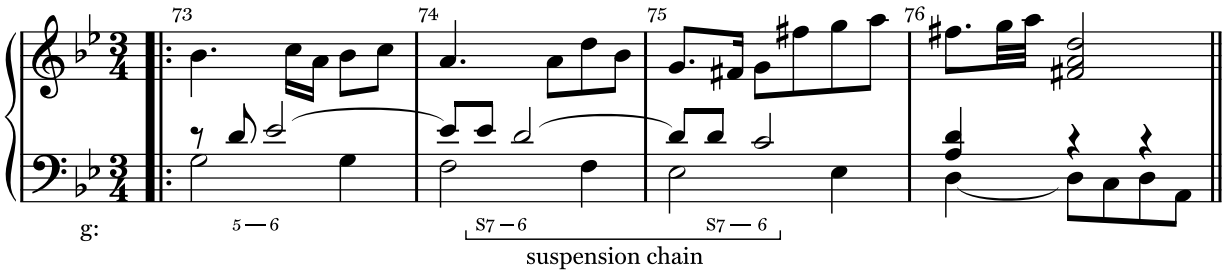
EXAMPLE 16.7: Bach, *St. Anne* Prelude, mm. 1–4



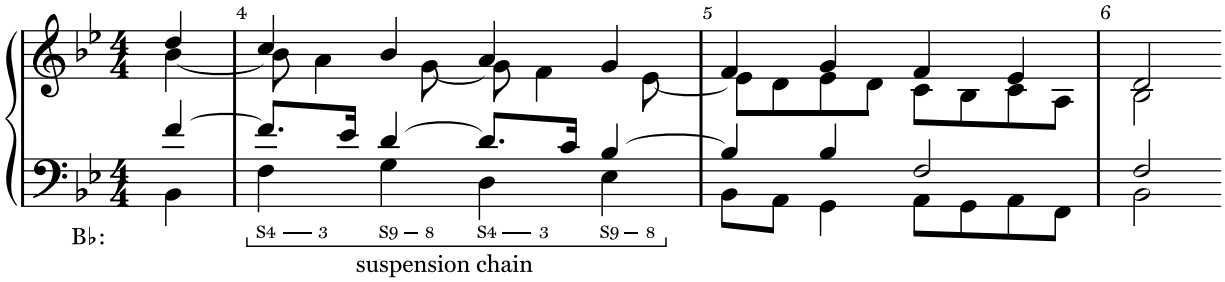
The accented dissonance at the cadence in measure 4 results from simultaneous 9–8 and 4–3 suspensions. In fact, the 9–8 may appear in combination with either the 4–3 or 7–6 in a **double suspension**; the suspended pitches will move in parallel sixths or thirds above the bass. In the Bach cadence, the double suspension is combined with a third dissonance, marked 7–8: a retardation, to which we return later in the chapter. We could hear the tonic as embellished by an entire dominant seventh harmony suspended over î in the bass, before resolving on beat 2—a type of suspension particularly favored by Mozart.

You may sometimes find suspensions combined in chains, as in Variation 9 of Handel's Chaconne (Example 16.8). In measures 74–75, the tenor and bass voices present two successive 7–6 suspensions. This type of suspension chain, along with the chain that alternates 4–3 with 9–8 suspensions (Example 16.9, between bass and alto), are the most common.

EXAMPLE 16.8: Handel, Chaconne in G Major, Variation 9, mm. 73–76



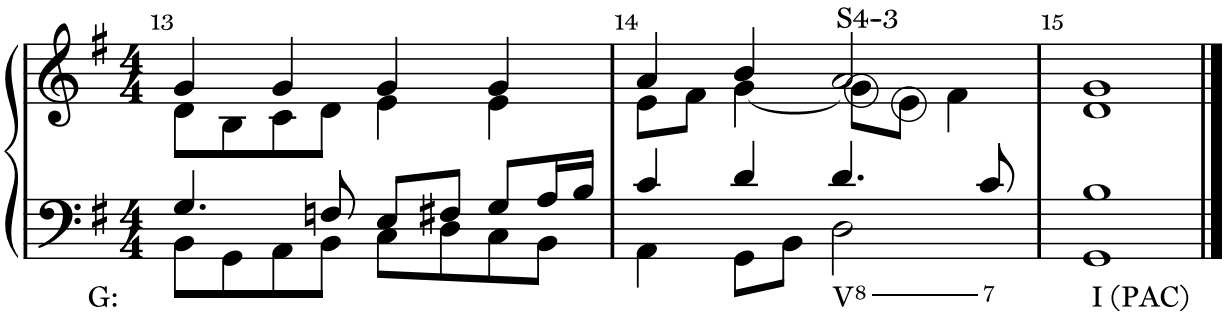
EXAMPLE 16.9: Bach, "Heut' ist, o Mensch," mm. 4–6



Embellishing Suspensions

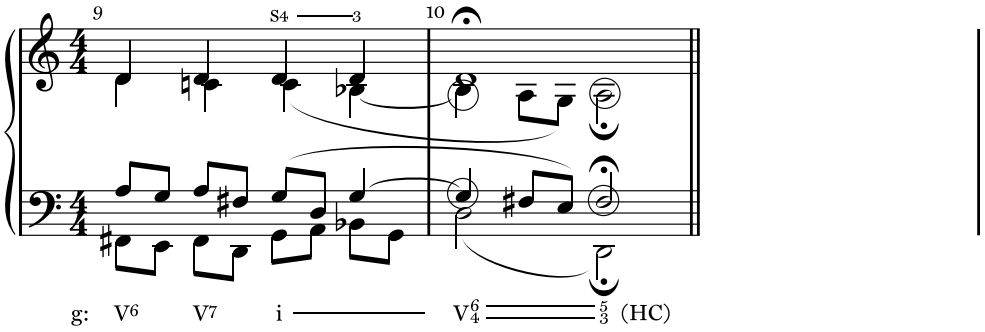
Some suspensions are embellished before their resolution, as in Example 16.10, from one of many Bach chorales with a 4–3 suspension above the dominant harmony at the cadence. In measure 14, Bach embellishes the suspended tone, G4 in the alto, by skipping down to E4 before resolving on F♯4.

EXAMPLE 16.10: Bach, "Liebster Jesu," mm. 13–15



The cadence in measures 9–10 of "Christ ist erstanden" (Example 16.11) is highly embellished with suspensions, including a double suspension (m. 10): a dissonant 4–3 in the tenor and a consonant 6–5 in the alto, resulting in parallel thirds between these two voices. The suspended tones resolve on the metrically stronger beat 3, not beat 2, just as they would in fourth-species counterpoint, with the eighths on beat 2 embellishing and intensifying the suspension.

EXAMPLE 16.11: Bach, "Christ ist erstanden," mm. 9–10



KEY CONCEPT When embellishing a suspension, decorate the dissonant suspended tone rather than the tone of resolution.

Try it #2

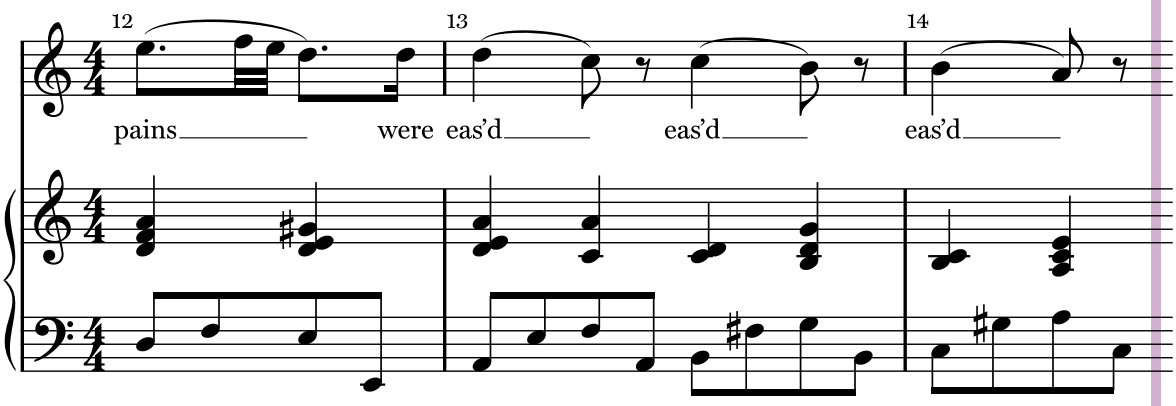
Circle each of the rearticulated suspensions in the vocal part of this example, and label it above the staff as a 7–6, 9–8, or 4–3. The chord of resolution (assuming the lowest note in each half measure is the bass) in each case is (circle one):

Show answers

root position first inversion second inversion

Purcell, "Music for a While," mm. 12–14

Show answers



Retardations

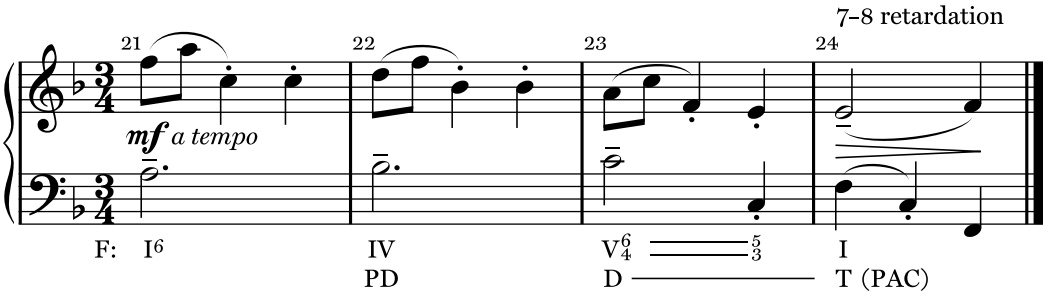
In Classical- and some Baroque-era music, you may encounter a rhythmic embellishment that looks and sounds like a suspension, but resolves up by step instead of down.

KEY CONCEPT A **retardation**, like a dissonant suspension, begins with a consonance that is held over—tied or rearticulated—to the next beat, creating a dissonance in the new chord. The dissonance then resolves up by step. The most common retardation is a 7–8, with scale degrees $\hat{7}$ and $\hat{8}$ above $\hat{1}$ in the bass.

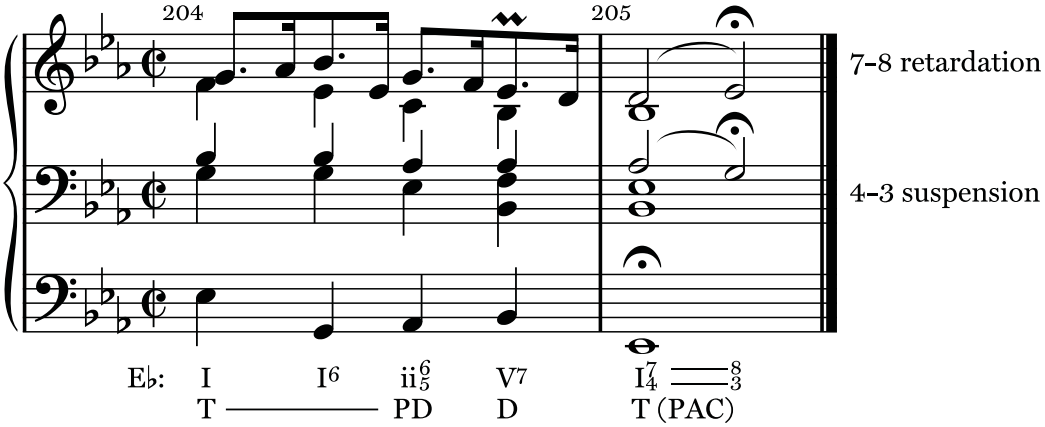
Retardations are usually found at an authentic cadence: the

tonic arrives in the bass, but part of the dominant harmony is sustained or rearticulated in one or more of the upper voices before resolving to the tonic, as in Mozart's minuet (Example 16.12). Retardations are often combined with a suspension, as in Example 16.13: a 7–8 retardation (m. 205, D4–E♭4) with a 4–3 suspension (A♭3–G3).

EXAMPLE 16.12: Mozart, Minuet in F Major, mm. 21–24 (final cadence)



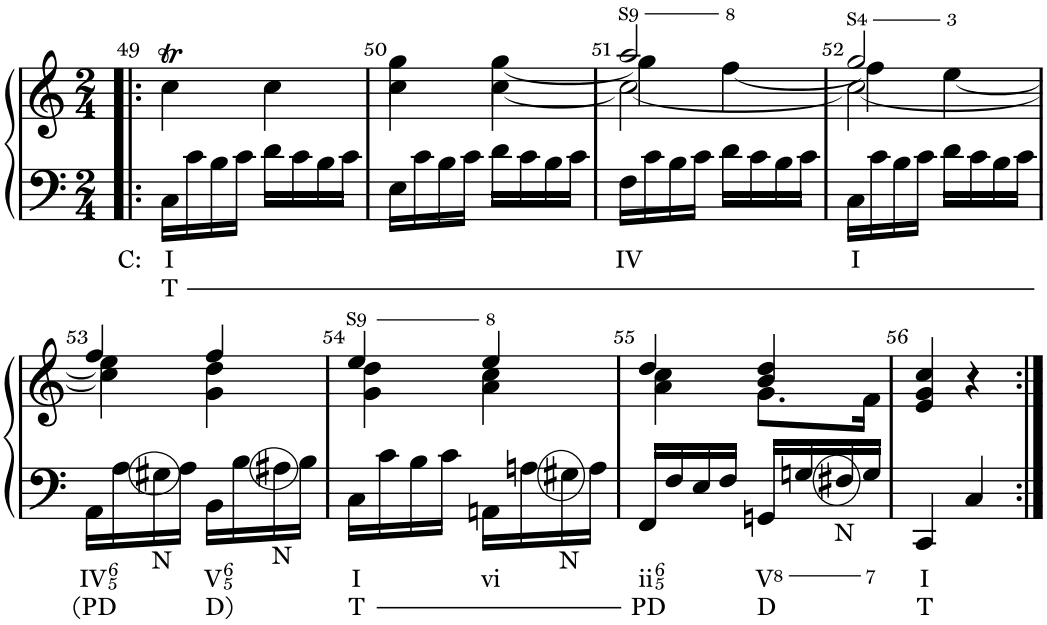
EXAMPLE 16.13: Bach, *St. Anne* Prelude, mm. 204–205 (final cadence)



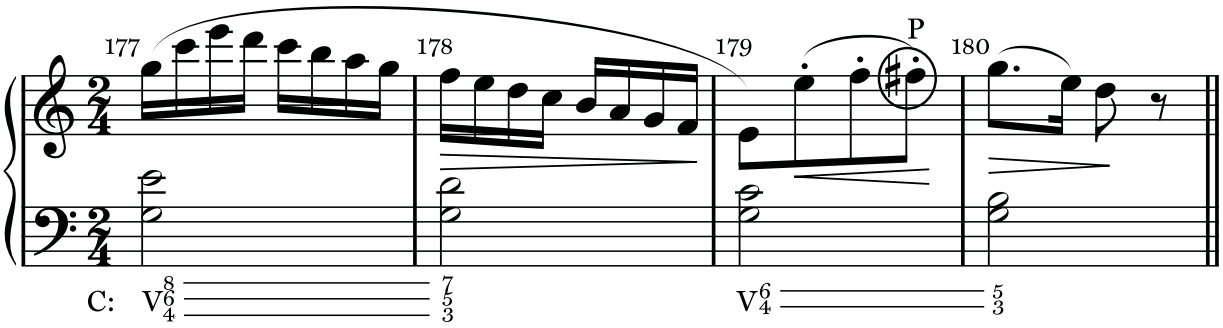
More on Neighbor and Passing Tones

Chromatic Neighbor and Passing Tones

Classical-period variations are excellent for the study of melodic and harmonic embellishments, because we know from the theme what the composer considered a starting point. Mozart's *Variations on "Ah, vous dirai-je Maman,"* for example, includes a variety of melodic embellishments and employs several contrapuntal techniques to elaborate the familiar theme. Listen to the second variation (mm. 49–72): the melody in the right hand is based on the "Twinkle, Twinkle, Little Star" tune with added suspensions, while the left-hand accompaniment in rapid sixteenth notes features neighbor tones (Example 16.14).

EXAMPLE 16.14: Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 49–56

The circled accidentals in the left hand of measures 53–55 introduce a new type of embellishment. In measure 53, the G♯ 3 (beat 1) and A♯ (beat 2) are **chromatic neighbor tones**, which neighbor by a half step and require an accidental. You can also write a **chromatic passing tone**, filling in a step with two chromatic half steps–as in Example 16.15 (F to F♯ and F♯ to G). Chromatic neighbor and passing tones stand out more than their diatonic counterparts; but as they are temporary moments of chromaticism, they do not disturb the sense of the key.

EXAMPLE 16.15: Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 177–180



KEY CONCEPT When an accidental is added to create a half-step neighbor or passing tone, the resulting embellishment is called a chromatic neighbor or chromatic passing tone.

Chromatic passing and neighbor tones may be either accented or unaccented. Since accented embellishing tones generally produce a more striking aural effect, performers may sometimes add a slight rhythmic or dynamic stress for heightened expression.

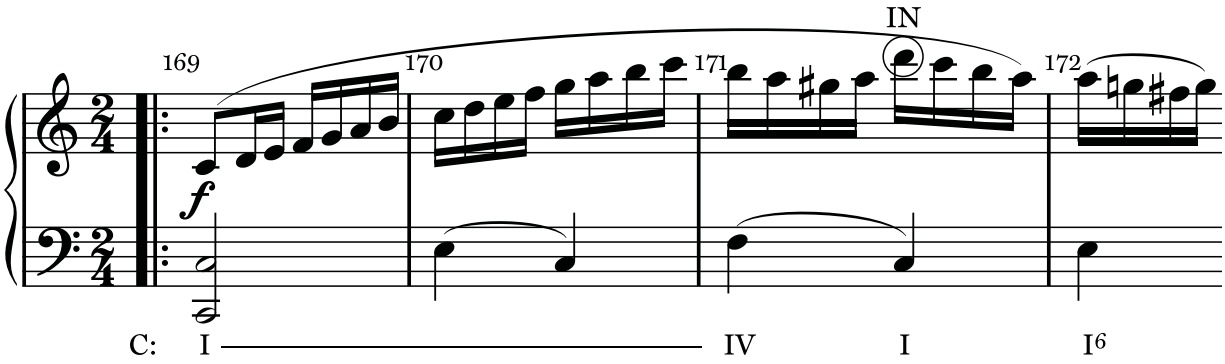
Incomplete Neighbors

The complete neighbor-note patterns we have seen so far comprise the main melody pitch (a consonance), the upper or lower neighbor a step away (usually a dissonance), and the return to the main melody pitch. If one of the consonant elements is left out, the resulting embellishment is called an **incomplete neighbor** (abbreviated IN), and it may take one of two forms:

- it may leap or skip to the dissonance, then resolve like a neighbor tone, by step in the opposite direction (this is sometimes called an **appoggiatura**); or
- it may begin by step, then skip or leap away in the opposite direction (sometimes called an **escape tone** or **échappée**).

In Example 16.16, the ascending C major scale passage in measures 169–170 is followed in measure 171 with an accented passing tone (B5) and chromatic lower neighbor (G♯5). Then the melodic line takes a dramatic leap up to D6, not part of the C major harmony: this is an accented incomplete neighbor to C6—approached by leap and resolved by step in the opposite direction.

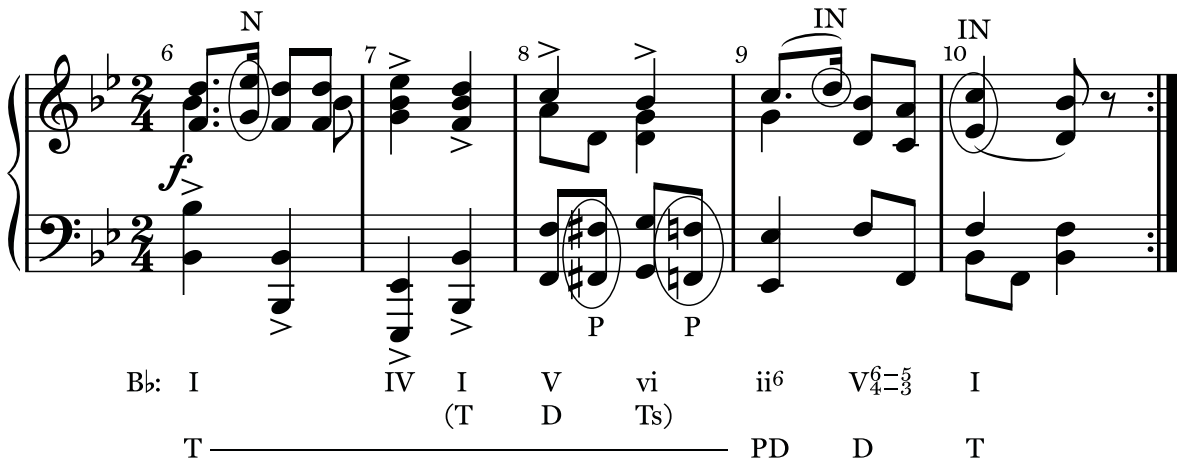
EXAMPLE 16.16: Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 169–172



The other type of IN (step-skip or step-leap) is shown in

measure 9 of Example 16.17. Here, the C5 in the melody is the chord tone in the predominant harmony. The melody steps up to the dissonant D5, an unaccented IN, then skips to resolve in the cadential V^{6}_{4-3}. The final tonic in measure 10 also features accented incomplete neighbors on the downbeat–an embellishment typical of Haydn's style at the cadence.

EXAMPLE 16.17: Brahms, *Variations on a Theme by Haydn*, mm. 6–10 (piano 1)



KEY CONCEPT To write an incomplete neighbor:

- skip or leap to the dissonant neighbor tone, then resolve to the main melody pitch a step away (usually in the opposite direction); or
- approach the dissonant neighbor tone by step, then leave it by skip or leap in the opposite direction.

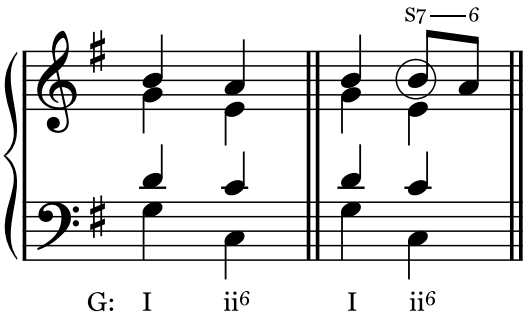
Try it #3

Copy each chord pair in the measure to its right, then add

Roman numerals and the specified embellishing tones. Circle the embellishing tones.

(a) Add a 7–6 suspension.

Show answers



(b) Add a chromatic passing tone.

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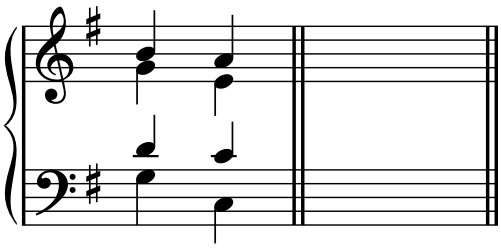
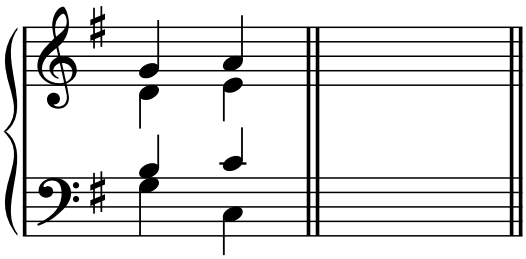


c) Add an incomplete neighbor.

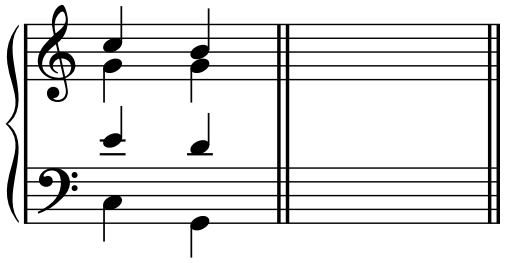
Show answers



(d) Add a 4–3 suspension.

Show

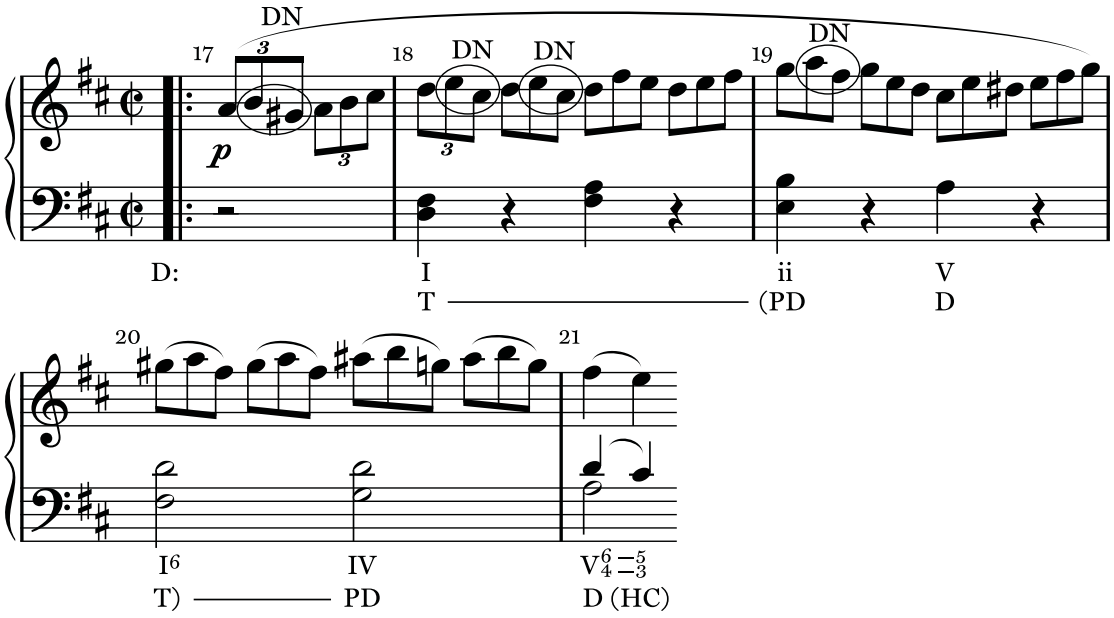
answers



Double Neighbors

For one last type of neighbor embellishment, we turn to another Mozart variation set (Example 16.18). In measure 17, A4 is followed first by the upper neighbor B4, then a lower neighbor G♯4, before returning to A4. As you recall from third-species counterpoint, this figure is a double neighbor (DN), and it recurs on the downbeat of each of the next two measures.

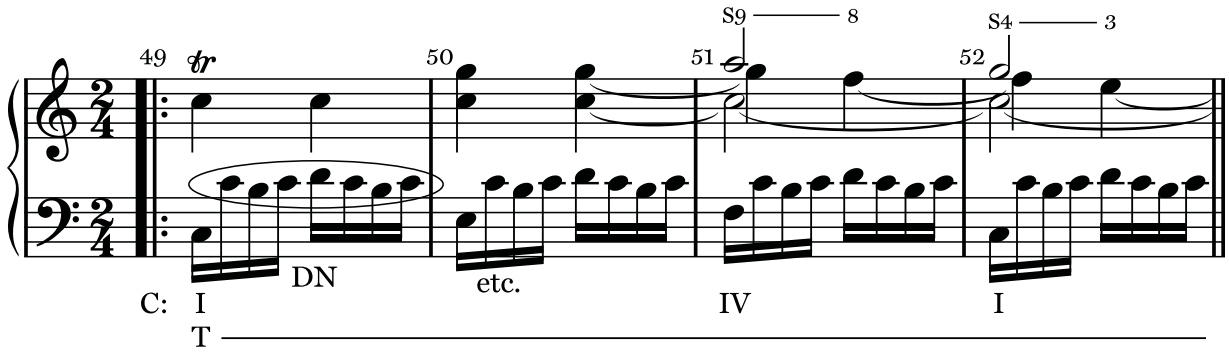
EXAMPLE 16.18: Mozart, Piano Sonata in D Major, mvt. 3, Variation I, mm. 17–21



KEY CONCEPT The combination of successive upper and lower neighbors (in either order), called a **double neighbor**, typically skips from one neighbor to the other before returning to the chord tone.

A different DN pattern can be seen in Example 16.19. Here, the upper and lower neighbors in measures 49–52 (left hand) are filled in by the chord tone C4. This figuration continues throughout each measure.

EXAMPLE 16.19: Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 49–52

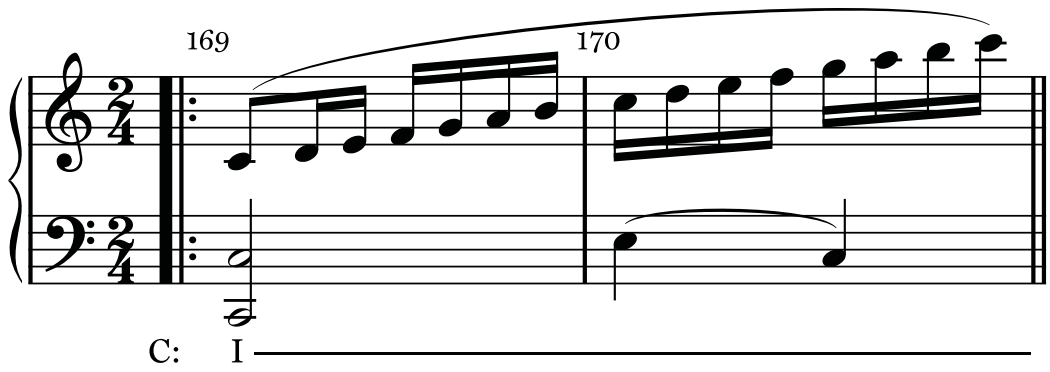


Passing Tones, Chordal Skips, and Scales

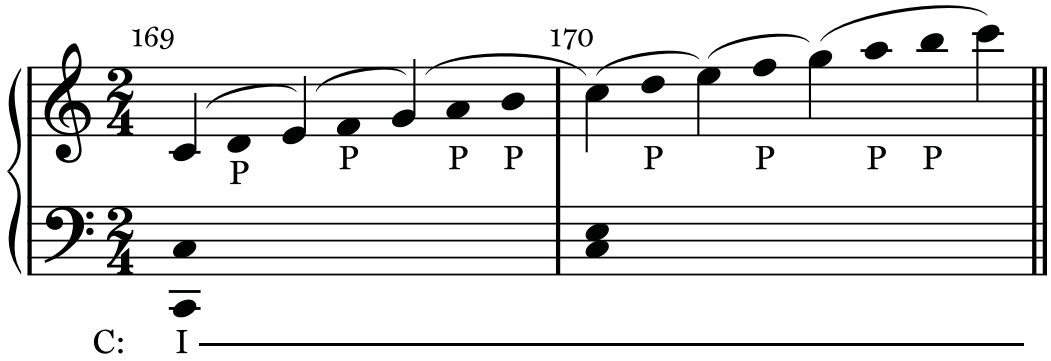
When a scale appears in a piece of tonal music, it often represents chordal (consonant) skips filled in with passing tones. In Example 16.20a, for instance, the first two measures expand the tonic harmony with a C major scale, which can be considered an arpeggiation of a C major triad that's filled in with passing tones (part b). Sometimes two passing tones are needed to fill in skips of a fourth, as between G4 (m. 169) and C5 (m. 170, beat 1). The slurs in part (b) are simply analytical symbols to show how pitches embellish the triad.

EXAMPLE 16.20: Mozart, *Variations on "Ah, vous dirai-je Maman,"* Variation VII

(a) Mm. 169–170



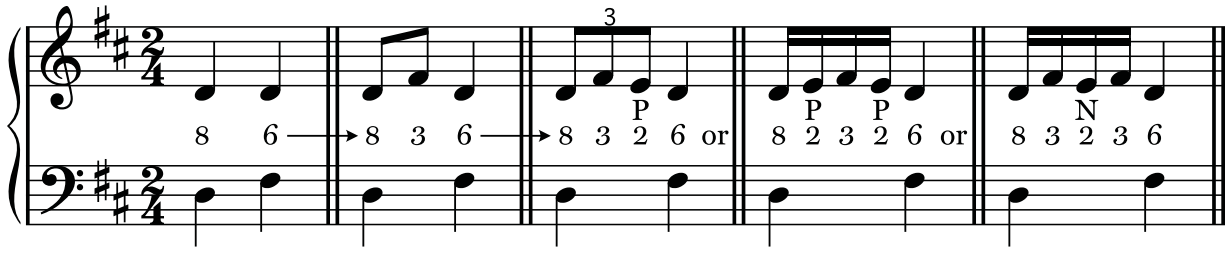
(b) Reduction, showing arpeggiation with passing tones



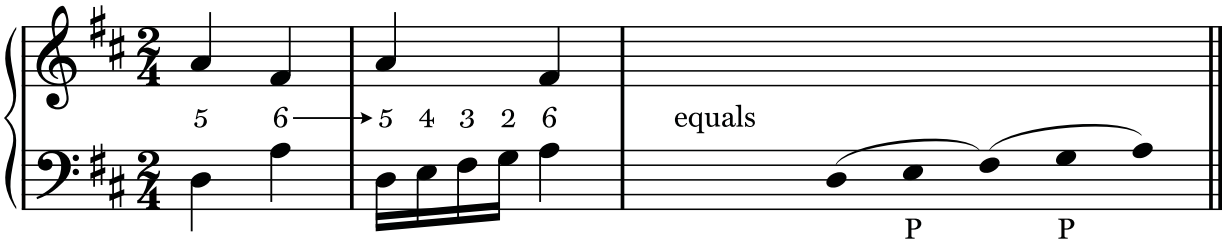
The principles observed in writing third-species embellishments from a note-to-note or 2:1 frame also apply in eighteenth-century style, where the durations are normally quarter, eighth, and sixteenth notes. Example 16.21 shows how simple embellishments such as consonant skips, passing tones, and neighbor tones can be combined to make elaborate 4:1 patterns. These are the essential melodic ingredients of the Mozart *Variations*.

EXAMPLE 16.21: Elaborate embellishments created from simple ones

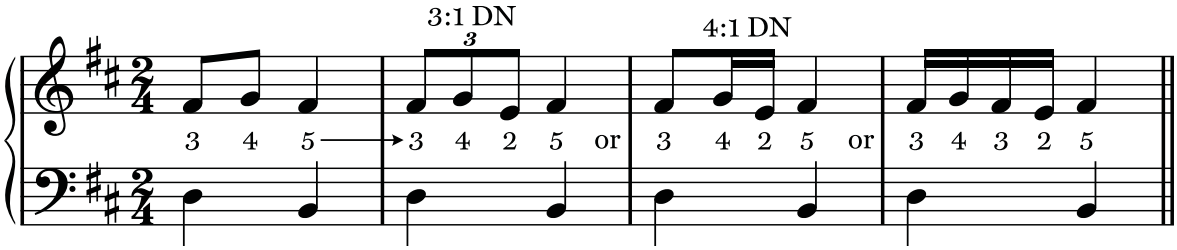
(a) Embellishing a third



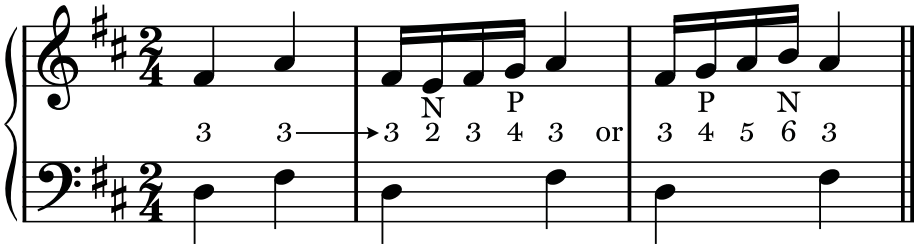
(b) Passing tones



(c) Neighbor tones



(d) Passing and neighbor tones combined



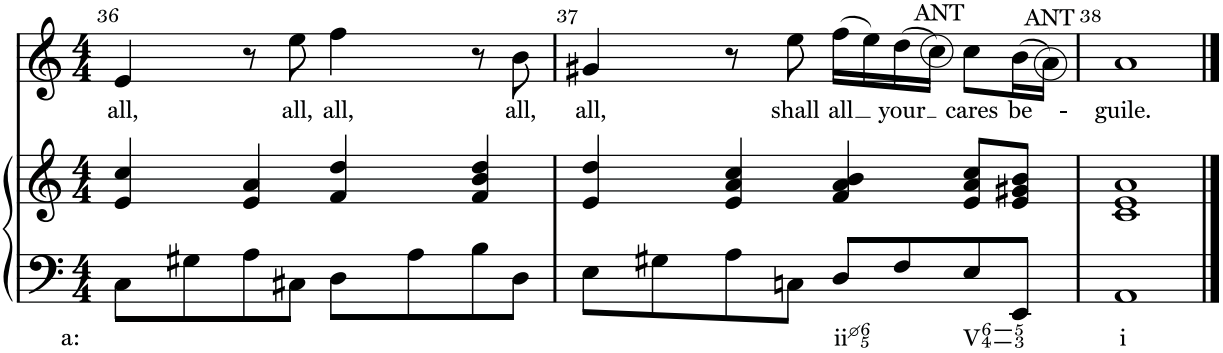
Other Types of Embellishments

Anticipations

In the case of suspensions and retardations, the embellishment is created when one part of a two-voice framework is delayed and resolves "late." With an **anticipation** (ANT), the opposite happens: one part of the framework arrives "early." Anticipations are unaccented—they appear on the offbeat or a weak beat of a measure—and are usually dissonances. They do not need to resolve in the same way other dissonances do; they are simply repeated on the next beat, where they belong in the counterpoint. Though not included in strict species counterpoint, they are frequently used by eighteenth-century composers to decorate cadences.

Listen to the final measures of Purcell's "Music for a While" to hear anticipations in the vocal line (Example 16.22). When the soprano sings "beguile" (mm. 37–38), she arrives on the A4 tonic pitch one sixteenth note ahead of the tonic chord, anticipating the resolution of $\hat{2}$ to the tonic.

EXAMPLE 16.22: Purcell, "Music for a While," mm. 36–38 (final cadence)

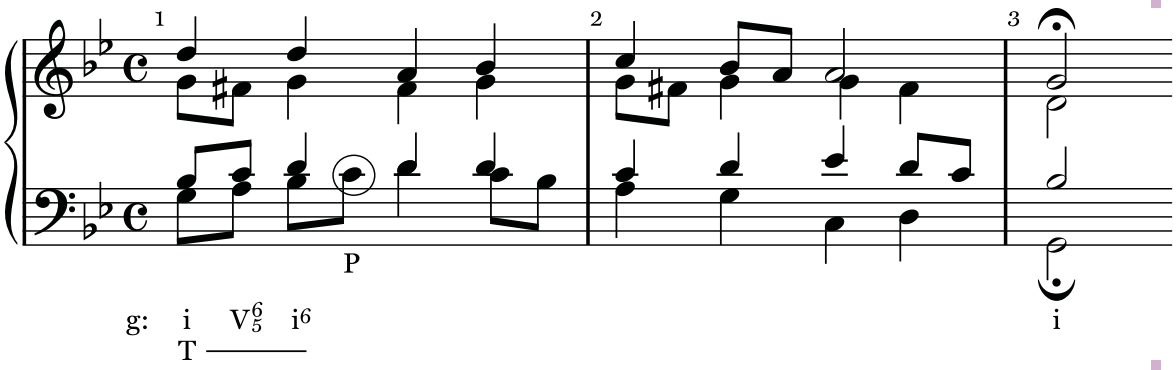


Try it #4

Circle and label all embellishing tones in the chorale excerpt below. Then provide a Roman numeral and contextual analysis.

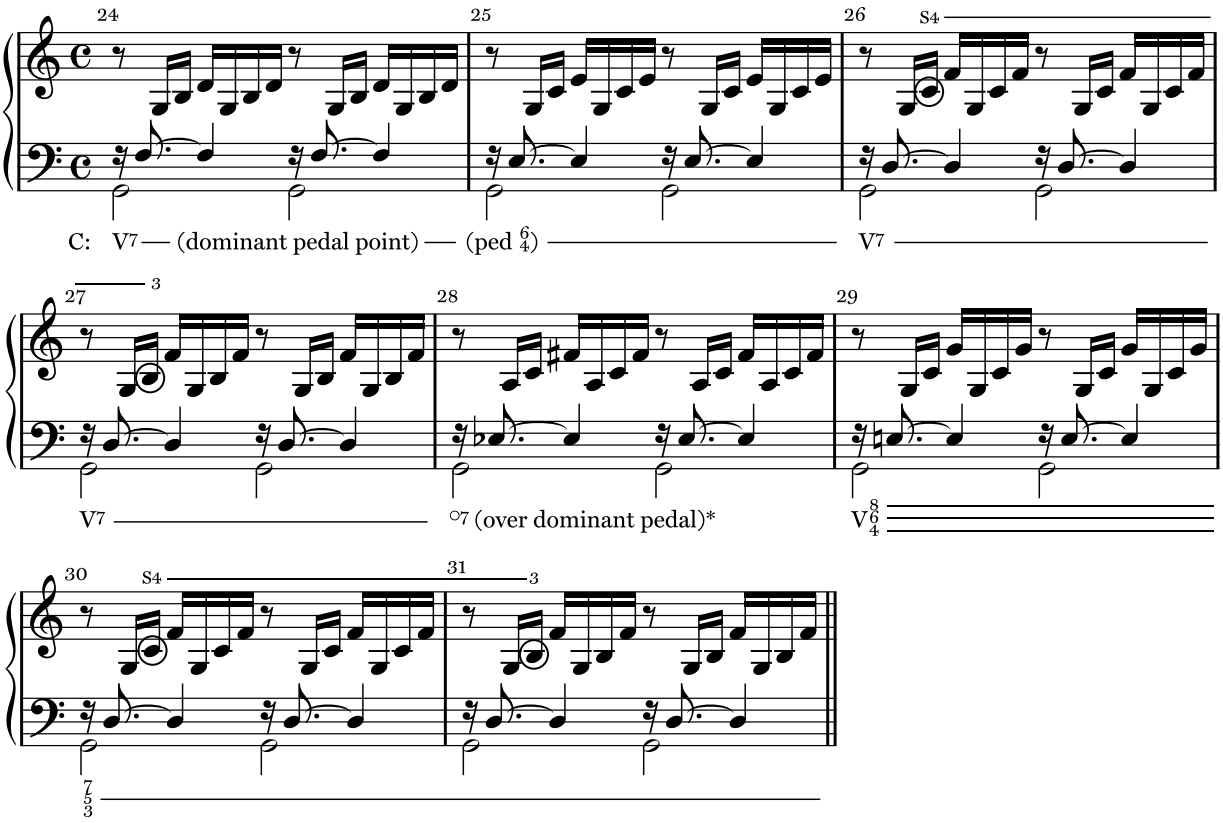
Bach, "Jesu, der du meine Seele," mm. 1–3

Show answers



Pedal Points

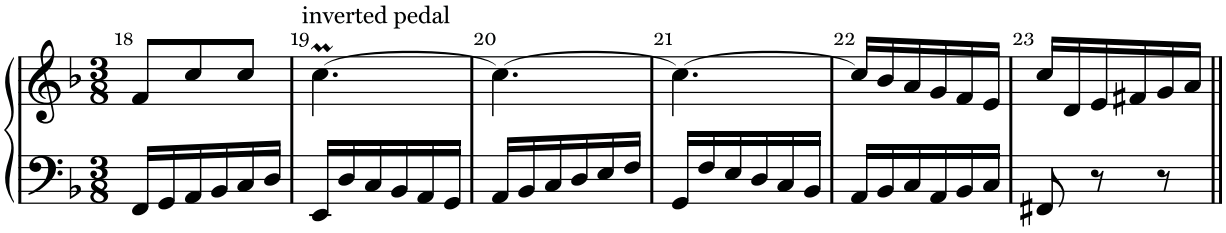
Pedal points get their name from passages in organ music, where the organist's foot rests on a single low pedal for measures at a time while the harmonies change above it. Even in music not written for organ, a repeated low tone can mimic the organ pedal's effect, as in Bach's Prelude in C Major (Example 16.23). Here, Bach prolongs the dominant seventh harmony—with dominant pedal point—before the prelude's final four-measure closing. Pedal points do not decorate a musical line in the way that passing or neighbor tones do, but they *are* considered embellishing tones: as the harmonies shift above it, that pedal point will be a "non-chord" tone in relation to some of the harmonies. Like suspensions, pedal points may be sustained or rearticulated.

EXAMPLE 16.23: Bach, Prelude in C Major, mm. 24–31

*More on this harmony in Chapter 20.

When you encounter a pedal point in music, consider carefully the larger context. Most often, the pedal prolongs a single harmony (usually tonic or dominant), as here, and the voices above it are embellishing. Sometimes the upper harmonies are functional and can be analyzed with Roman numerals; other times they can be conveyed with figured-bass numbers (as for a pedal $\frac{6}{4}$ chord). Because the pedal point sounds below the chords, some analysts omit inversion symbols for these harmonies altogether. Others retain them, opting instead to disregard the "nonharmonic" pedal tone or to note its presence by writing "pedal" with the Roman numerals (as in the Bach analysis above).

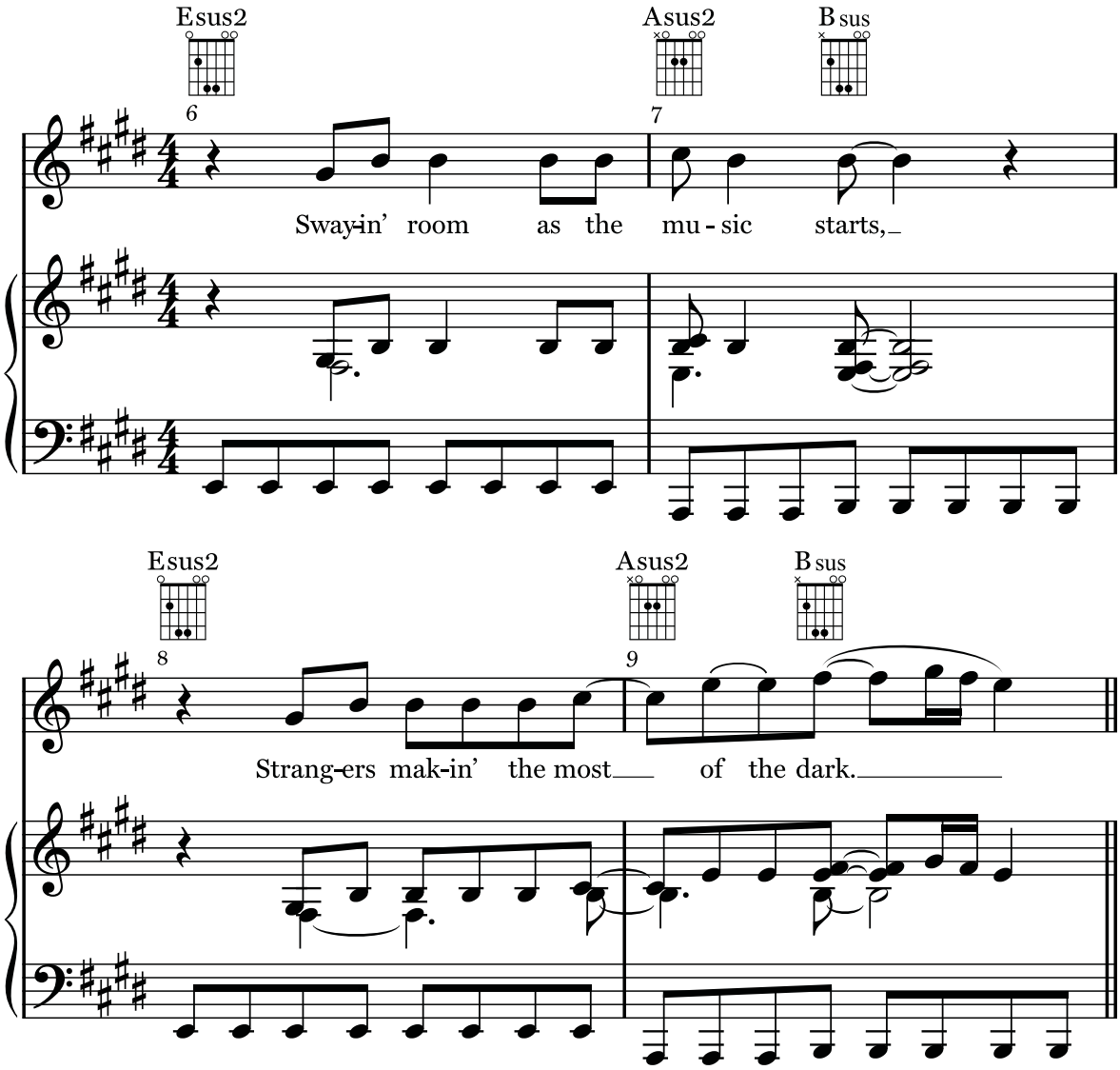
Pedal points are not limited to the bass line, as Example 16.24 shows, but may appear in any voice; when in upper voices, they are sometimes called “inverted pedals.” With the pedal point in an upper voice, you can label the Roman numerals as usual, and mark the pedal above the upper part.

EXAMPLE 16.24: Bach, Invention in D Minor, mm. 18–23

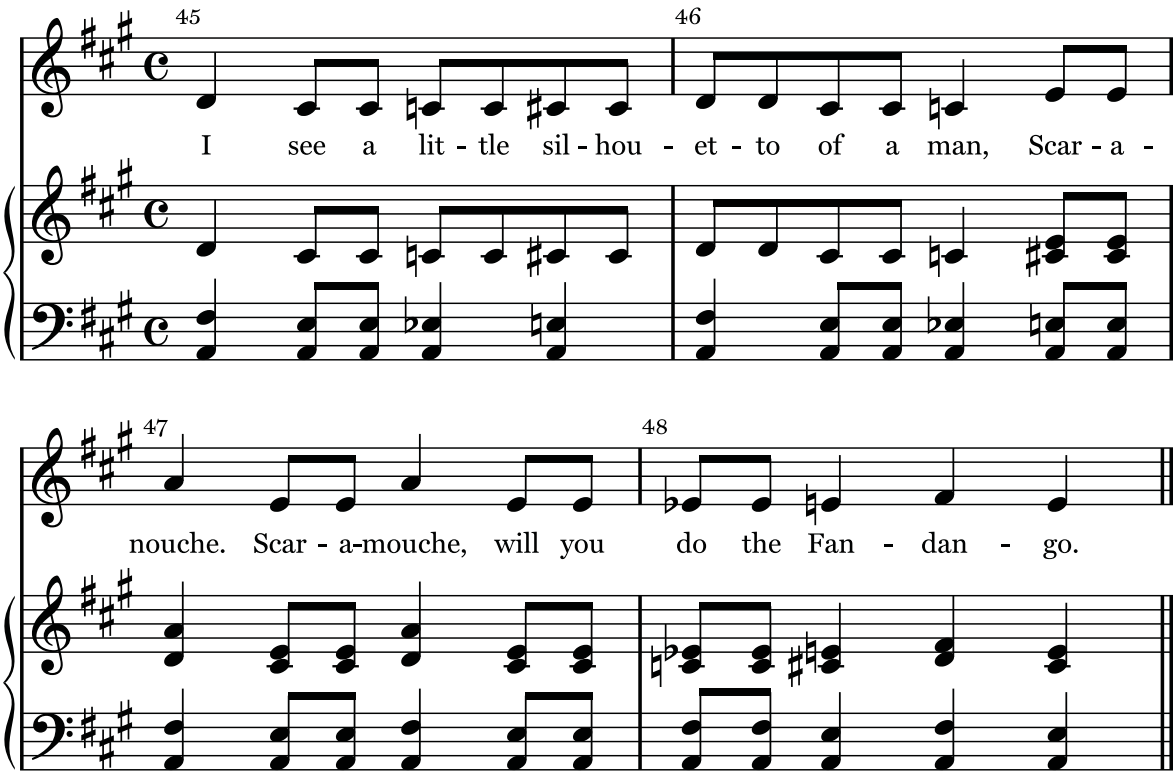


Embellishing Tones in Popular Music

Some of the guidelines for preparing and resolving embellishing tones are more relaxed in popular music. Suspended tones may be unprepared, and they may add a dissonance that never resolves. In Example 16.25, from "Crazy for You" as sung by Madonna (1985), every chord is labeled "sus 2" or "sus," which gives the simple I–IV–V–I (E–A–B–E) chord progression a rich and lush sound. Some of these "suspensions" connect to chord tones in the following measure—such as the B (the suspended tone in the Asus2 chord, m. 7) that stays for the following Bsus—but none of the suspensions resolve down by step as they would in common-practice style. Yet passing and neighbor tones embellish chord tones in popular styles in the same way they do in other repertoire. For example, the high point of the "Crazy for You" melody is embellished on the word "dark" (m. 9) by a neighbor tone (G♯5).

EXAMPLE 16.25: Bettis and Lind, "Crazy for You," mm. 6–9

In Freddie Mercury's "Bohemian Rhapsody" (sung by Queen, 1975), the humorous quality of the middle section (Example 16.26) is created in part by its chromatic passing and neighbor tones. For example, measure 45 ("I see a little silhouetto") features the chromatic neighbor tone C♯–C♮–C♯ and its accompaniment, E–E♭–E♮. In measures 47–48, the E–E♭–E♮ moves to the voice, with a chromatic passing tone C–C♯–D in the accompaniment. The entire passage is sung over a pedal point, A.

EXAMPLE 16.26: Mercury, "Bohemian Rhapsody," mm. 45–48



SUMMARY

EMBELLISHMENT	ABBREVIATION	CATEGORY	BRIEF DESCRIPTION
passing tone	P	melodic embellishment	• Dissonance approached by step and left by step in the same direction (up-up or down-down). • Fills in a consonant skip. • May be accented or unaccented; unaccented is more common. • A chromatic passing tone fills in a step.
neighbor tone	N	melodic embellishment	• Dissonance approached by step and left by step in the opposite direction (up-down or down-up).

			• Decorates a repeated note. • May be accented or unaccented; unaccented is more common. • May be diatonic or chromatic.
incomplete neighbor tone	IN	melodic embellishment	• A neighbor figure missing either the approach or resolution. • Skip (leap), then step—or step, then skip (leap)—usually in the opposite direction. • May be accented or unaccented; accented is more common. • May be diatonic or chromatic.
double neighbor	DN(circle both notes)	melodic embellishment	• Combination of upper and lower neighbor. • Step up, skip a third down, step up to the starting point (or the reverse direction). May include the consonant note in the middle as well. • Usually unaccented.
suspension	S or sus (label the type: 4–3, 7–6, 9–8; bass 2–3)	rhythmic displacement	• Prepared by a consonant chord tone. • That tone is held over to make a strong-beat dissonance when the chord changes. • Resolves down by step on the weak part

			of a beat.
retardation	R	rhythmic displacement	• Prepared by a consonant chord tone. • That tone is held over to make a strong-beat dissonance when the chord changes. • Resolves up by step on the weak part of a beat (usually 7–8).
anticipation	ANT	rhythmic displacement	• One voice arrives early (making a dissonance) before the chord changes. • Dissonance is on a weak beat; repeats on a strong beat as a consonance.
pedal point	ped		• Usually in the highest voice. • Usually in the bass. • Sustained through changing chords.

Did You Know?

Textbooks and analysts differ in how they label embellishing tones. Double neighbors are sometimes called "changing tones." As mentioned in the chapter, an incomplete neighbor may be called an appoggiatura (if it first leaps up, then resolves down by step), or an échappée or escape tone (if approached by a step, then left by a leap). In some traditions, any embellishing tone—other than a chordal skip or suspension—that falls on an accented beat is called an appoggiatura. This term, from the Italian *appoggiare* ("to lean"), accurately describes the tendency to stress or lean

on the dissonant pitch in performance. Appoggiaturas may be notated by the composer or added by the performer for expressive purposes. Suspensions also provide an opportunity for expressive interpretation: performers often add a slight *crescendo* from the preparation to the dissonance, and then a relaxation and *diminuendo* into the resolution.

TERMS YOU SHOULD KNOW

anticipation
appoggiatura
chordal (consonant) skip
chromatic neighbor tone
chromatic passing tone
double neighbor tone
double suspension
échappée (escape tone)
incomplete neighbor tone
neighbor tone
• lower neighbor
• upper neighbor
passing tone
pedal point
retardation
suspension
suspension chain
suspension with change of bass

QUESTIONS FOR REVIEW

1. What are the three steps necessary to write a suspension? What tone should not be doubled?
2. What are the most common suspension types? How might they be ornamented?
3. What embellishments are available in four voices that are not found in two-voice species counterpoint?
4. Find an example of an ornamented suspension, an anticipation, and a pedal point in music literature that you

know.

5. Which intervals above the bass are most typical for retardations?
6. Which embellishing tones appear in chromatic variants?
7. What is “incomplete” about an incomplete neighbor? What are the two IN types?
8. How are pedal points written in lead-sheet notation? How are suspensions?

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17 Voice-Leading Chords: vii°6, vii°7, vii⌀7, and Others

Outline

Dominant substitutes: Leading-tone chords

- Contexts for the vii°6, vii°7, and vii⌀7 chords
- Writing and resolving vii°6
- Writing and resolving vii°7, vii⌀7, and their inversions

Voice-leading $\frac{4}{2}$ chords

Overview

This chapter considers voice-leading patterns that expand the tonic area of the basic phrase with vii°6, vii°7, vii⌀7, and their inversions, as well as voice-leading $\frac{4}{2}$ chords.

Repertoire

Johann Sebastian Bach

- "Aus meines Herzens Grunde" ("From My Inmost Heart," Chorale No. 1)
- Cantata No. 140, "Wachet auf," mvts. 4 and 7
- "Ein feste Burg ist unser Gott" ("A Mighty Fortress Is Our God," Chorale No. 20)
- "O Haupt voll Blut und Wunden" ("O Head Full of Blood and Wounds," Chorale No. 74)

Prelude in C Major, from *The Well-Tempered Clavier*, Book I
Johannes Brahms, “Die Mainacht” (“The May Night”)
“St. George’s Windsor”

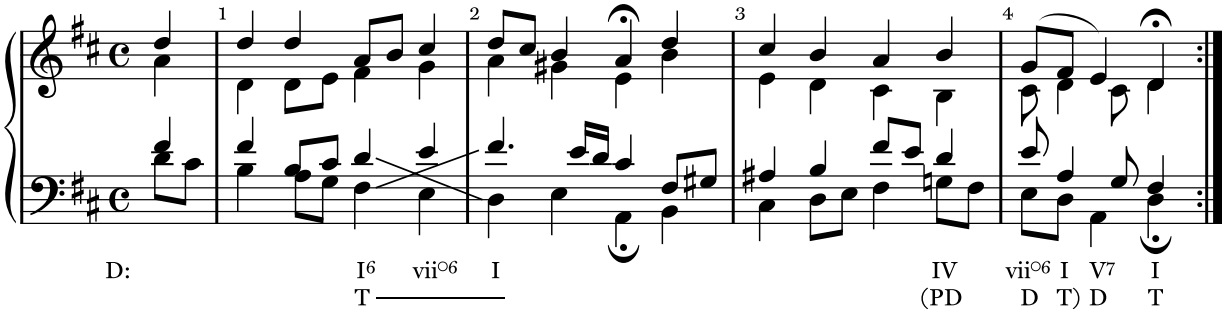
Dominant Substitutes: Leading-Tone Chords

The vii$^{\circ}$ triad (usually found in first inversion, vii$^{\circ 6}$) and the seventh chords vii$^{\varnothing 7}$ and vii$^{\circ 7}$ are dominant-function chords built on the leading tone. They serve as substitutes for the stronger dominant harmonies V and V^{7}, with which they share scale degrees $\hat{7}$, $\hat{2}$, and $\hat{4}$. As these chords are weaker harmonically, they tend to appear in conjunction with smooth, strong, stepwise voice-leading. In particular, they often expand the tonic area at the beginning or middle of a phrase, just as a V chord can.

Contexts for the vii$^{\circ 6}$, vii$^{\varnothing 7}$, and vii$^{\circ 7}$ chords

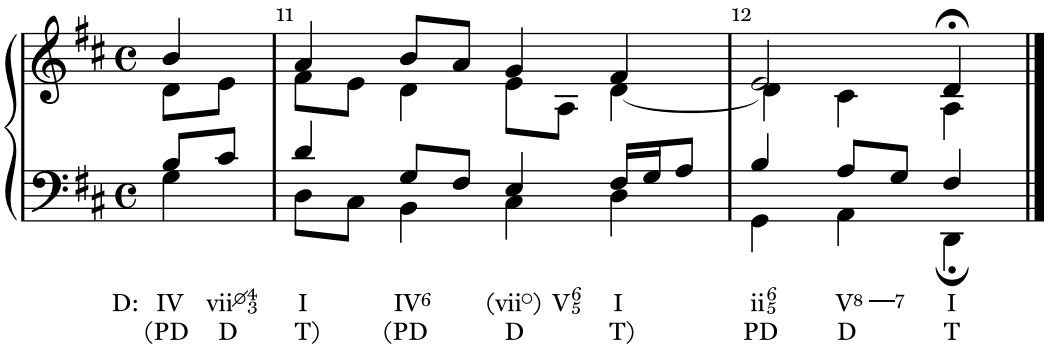
To hear several ways these chords are used, listen to Bach's chorale setting "Ein feste Burg ist unser Gott" (anthology), paying particular attention to the excerpts below (Examples 17.1 and 17.2). In measures 1–2 of Example 17.1, the vii$^{\circ 6}$, appearing mid-phrase, prolongs the tonic harmony (as a passing chord between I^{6} and I), and participates in a voice-exchange between the tenor and bass—a very strong contrapuntal motion similar to those we have seen with the passing V$^{6}_{4}$. The second vii$^{\circ 6}$ in this example (mm. 3–4) also occurs mid-phrase, this time between IV and I. This vii$^{\circ 6}$ substitutes where the stronger dominant V would be excessive, creating an embedded PD–D–T before the strong cadential I–V^{7}–I that ends the phrase. This vii$^{\circ 6}$, as in many chorale settings, is set with a quicker harmonic rhythm than the prevailing quarter-note beat—as if sneaking in a little dominant function where there is no room for an entire beat of it.

EXAMPLE 17.1: Bach, "Ein feste Burg ist unser Gott," mm. 1–4



In Example 17.2, the same basic progression appears in measures 10–11, again with a quicker eighth-note harmonic rhythm, but here including a vii^{ø7} in inversion: IV–vii$^{ø4}_{3}$–I. As with the previous example, most of the voices move completely by step. Another vii° in measure 11 shows a different way this chord is used: here the vii° follows IV6 and arrives on the beat, but (unusually) in root position. A leap in the alto voice then brings in the root of the V7 chord, turning the vii° into a V$^{6}_{5}$—the "real" chord on that beat.

EXAMPLE 17.2: Bach, "Ein feste Burg ist unser Gott," mm. 11–12



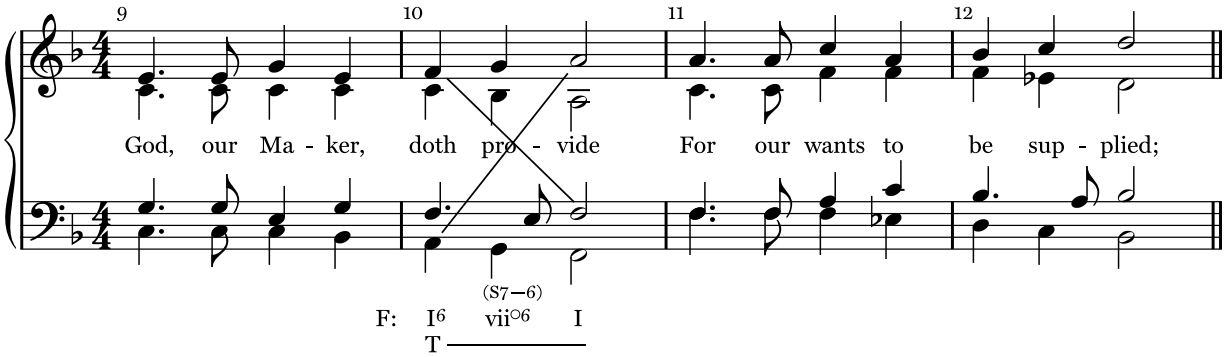
KEY CONCEPT These three contexts are typical for

leading-tone harmonies:

- as an expansion of the tonic between I and I^6;
- as a dominant substitute between IV (or ii^6_5) and I, creating an embedded PD–D–T; and
- as an incomplete V^7, where the root of the chord appears shortly thereafter.

The vii^{o6} or $vii^{ø6}_5$ sometimes appears where you might expect a cadential dominant, especially in hymns and Baroque chorales like "St. George's Windsor" and Bach's "Wachet auf" (Examples 17.3 and 17.4). In "St. George's Windsor," it may appear that there is a cadence in measures 9–10 with the progression I^6–vii^{o6}–I (T–D–T)—the tonic *is* set with a longer duration (𝅗𝅥)—but the larger context shows that the thought in the text is not completed: a similar resting place occurs in measure 12, and the music continues without a conclusive cadence until later in the hymn.

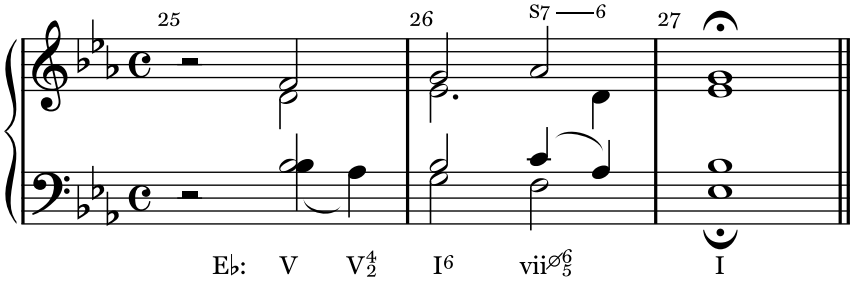
EXAMPLE 17.3: "St. George's Windsor," mm. 9–12



Likewise, measure 27 of "Wachet auf" (Example 17.4) is marked by a fermata and a rest following the I–$vii^{ø6}_5$–I progression, yet the exclamation of "Hallelujah!" does not feel

conclusive, and the chorale does not actually reach a final close until a PAC at the end. Though they carry a dominant function, vii$^{\circ 6}$ and vii$^{\circ 7}$ are not strong enough to create a conclusive cadence.

EXAMPLE 17.4: Bach, Cantata No. 140, mvt. 7, mm. 25–27

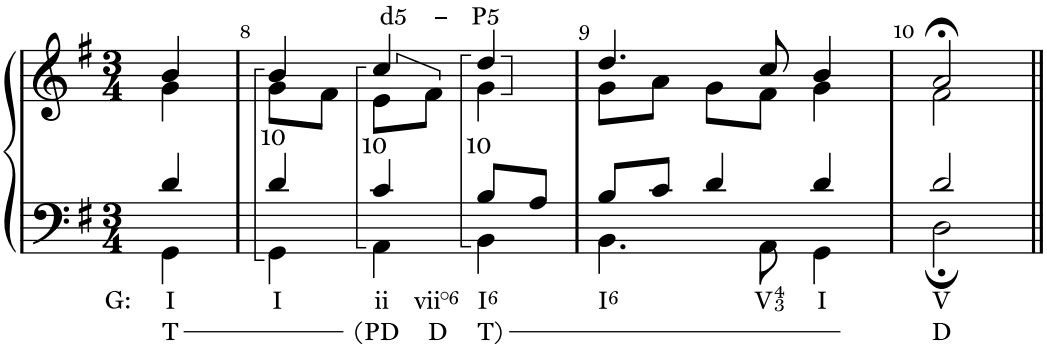


Example 17.5, from Bach's "Aus meines Herzens Grunde," shows vii$^{\circ 6}$ in a slightly more elaborate tonic expansion with embedded PD–D–T. Here, the predominant harmony is ii; this specific progression—an embedded ii–vii$^{\circ 6}$–I^6 expanding the tonic—occurs often in Bach chorales, but can be a little tricky to analyze if you haven't seen it before. If you attempt the maintain the standard chorale harmonic rhythm of one chord per beat and analyze the second beat of measure 8 as vii$^{\varnothing 6}_5$, the seventh of the chord (E4) does not resolve down as expected. And if you were tempted to analyze this progression as I–ii–I^6 (T–PD–T), take another look at the F♯4 on beat 2: what at first appears to be a passing tone instead provides the expected dominant function.

The better analysis is ii (A-C-E) to vii$^{\circ 6}$ (A-C-F♯), which provides both PD and D functions. Note that the voice-leading in this example is based on parallel tenths instead of the voice-exchange. As we have seen, the strong counterpoint of the soprano-bass parallel tenths overrides the tendency of $\hat{4}$ (C5) to

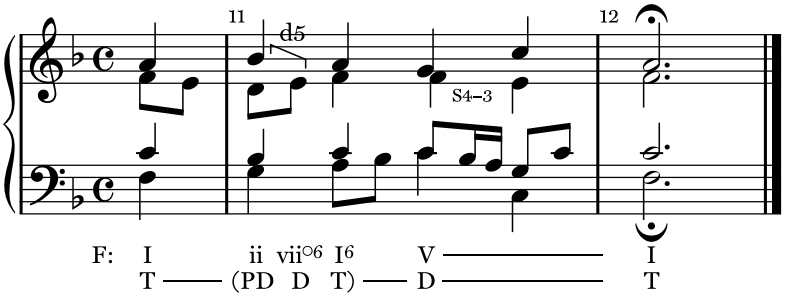
resolve down to $\hat{3}$ (B4) and the d5 to resolve inward to a third.

EXAMPLE 17.5: Bach, "Aus meines Herzens Grunde," mm. 7–10



Example 17.6 shows the same embedded PD–D–T progression (ii–vii°6–I), but with a different voicing that resolves the d5 (E-B♭) to a M3 (F-A).

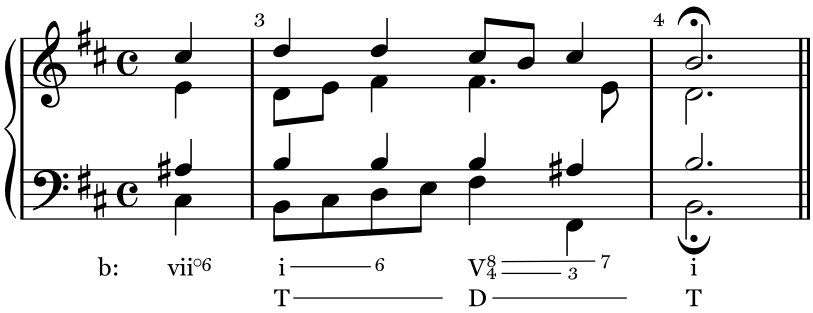
EXAMPLE 17.6: Bach, "O Haupt voll Blut und Wunden," mm. 11–12



Since a leading-tone harmony can substitute so easily for a dominant harmony, you will often find it as an anacrusis chord before the initial tonic of a phrase in Baroque chorales. For an example, listen to the beginning of "O Haupt voll Blut und

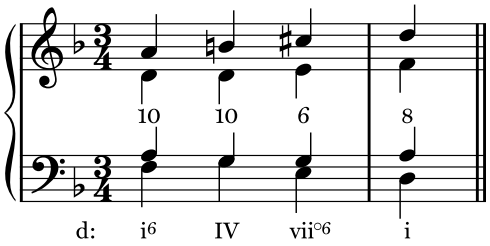
Wunden" (Example 17.7), where Bach chooses to harmonize the dominant-function melodic anacrusis $\hat{2}$ with vii$^{\circ 6}$ instead of V.

EXAMPLE 17.7: Bach, "O Haupt voll Blut und Wunden," mm. 3–4



In minor keys, when the melody ascends through $\hat{5}$, $\hat{6}$, $\hat{7}$, and $\hat{1}$ (as in Example 17.8), the leading-tone chord works well where V or V^7 does not. In this setting, i^6–IV–vii$^{\circ 6}$–i provides contrary motion and the outer-voice intervals 10–10–6–8, a strong contrapuntal framework, whereas IV–V would create problems with parallel fifths (here, between bass and alto).

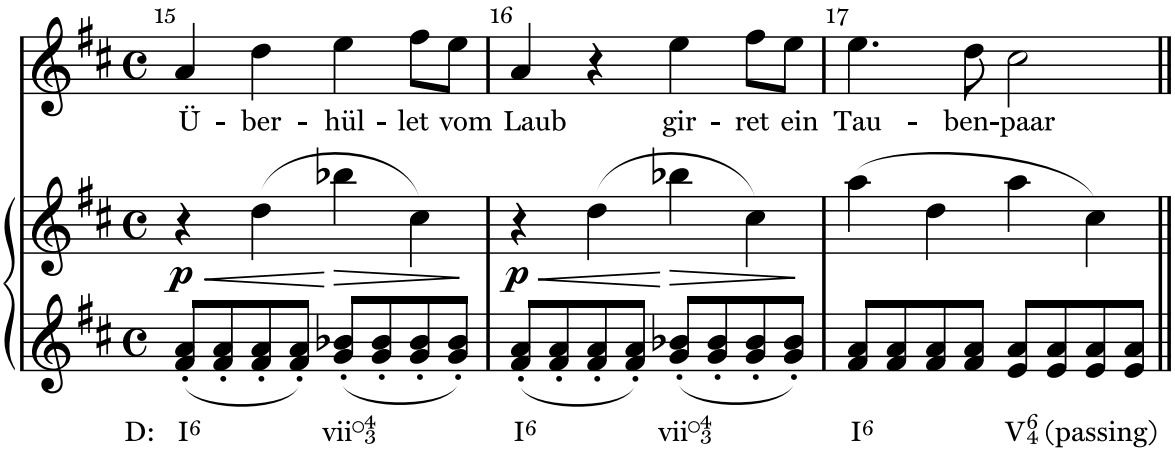
EXAMPLE 17.8: $\hat{5}$–$\hat{6}$–$\hat{7}$–$\hat{1}$ in minor, with vii$^{\circ 6}$



As with the leading-tone triad, vii$^{\varnothing 7}$, vii$^{\circ 7}$, and their inversions resolve to I or I^6 (i or i^6). Example 17.9 shows a passage from a Brahms song in which vii$^{\circ \frac{4}{3}}$ neighbors I^6; as the bass line moves

back and forth between F♯ and G, the piano right hand has an expressive solo line that (perhaps) imitates the cooing doves of the text. Here, Brahms adds a B♭ to the sonority (so that the diatonic half-diminished seventh is fully diminished), giving the right-hand a poignant diminished seventh leap downward. In later chapters, we will learn about more uses of chromatic chords like this one, with the lowered sixth scale degree from minor changing the quality of vii^{ø7} to vii^{o7}.

EXAMPLE 17.9: Brahms, "Die Mainacht," mm. 15–17



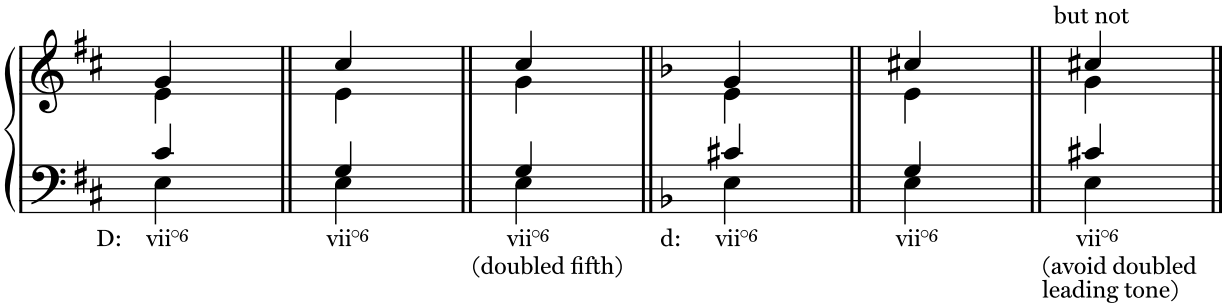
Translation: Veiled by leaves, a pair of doves coo.

Writing and Resolving vii°6

Because the leading-tone triad includes the dissonant tritone $\hat{7}$ to $\hat{4}$, you need to pay careful attention to its doubling and inversion. Example 17.10 gives possible SATB arrangements.

KEY CONCEPT In the vii°6, the third (the bass) is usually doubled; less typical but possible is a doubled fifth. Don't double the root, which is the leading tone.

EXAMPLE 17.10: Voicings and spacings for vii°6

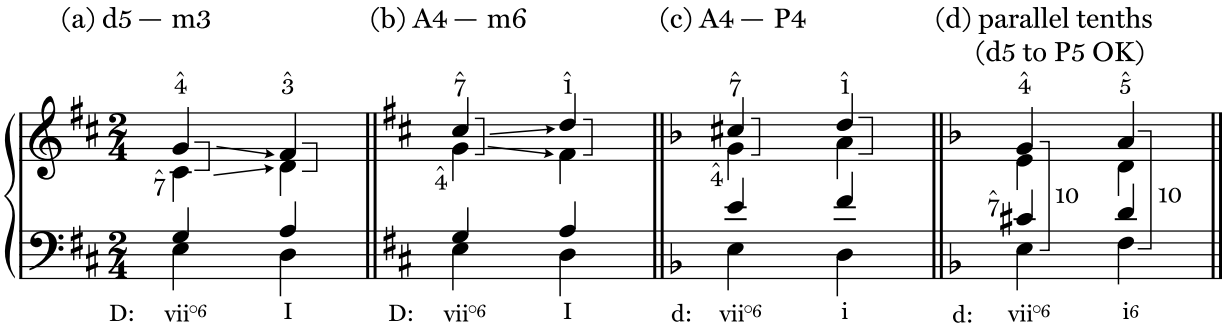


KEY CONCEPT Since V^7 and $vii^{\circ 6}$ share the tendency tones $\hat{7}$ and $\hat{4}$, their normal resolutions follow the same principles:

- $\hat{7}$ resolves up to $\hat{1}$;
- $\hat{4}$ resolves down to $\hat{3}$ or possibly up to $\hat{5}$ (both, if $\hat{4}$ is doubled);
- $\hat{2}$ resolves down to $\hat{1}$ or possibly up to $\hat{3}$ (both, if $\hat{2}$ is doubled).

Example 17.11 gives several correct resolutions: $\hat{7}$ resolves to $\hat{1}$ in each; $\hat{4}$ resolves to $\hat{3}$ in (a) and (b), and to $\hat{5}$ in (c) and (d).

EXAMPLE 17.11: Resolutions of vii°6



Another

Way

When resolving vii°6, it can be helpful to focus on the dissonant tritone (bracketed in Example 17:11):

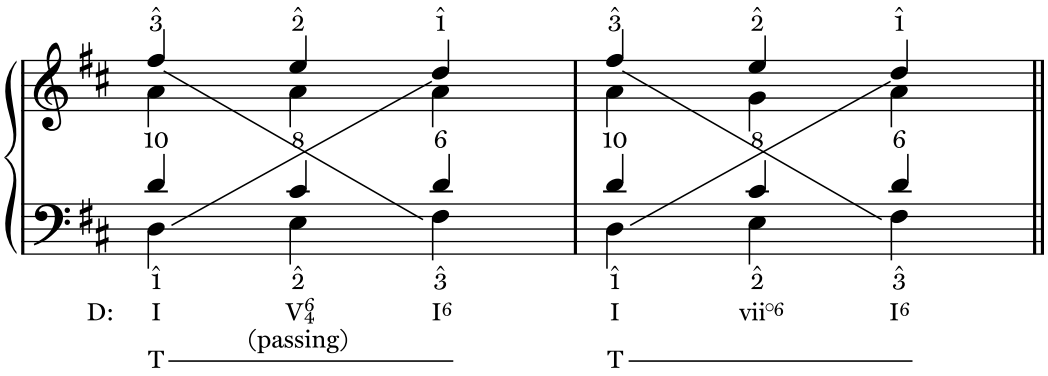
- If the tritone is spelled as a d5—$\hat{7}$ below $\hat{4}$—it normally resolves inward to a third (part a).
- If the tritone is spelled as an A4—$\hat{4}$ below $\hat{7}$—it resolves outward to a sixth (part b); or it may move in similar motion to a P4 (part c).
- With a d5, $\hat{4}$ resolves up to $\hat{5}$ in one particular context: when the soprano-bass counterpoint moves upward in parallel tenths (part d).

The standard outer-voice patterns for writing vii°6, illustrated in Example 17.12, fit well within the guidelines of species counterpoint. Parts (a) and (b) show a tonic expansion moving from root position to first inversion, featuring a voice exchange in soprano and bass and the outer-voice intervals 10–8–6, first with a V^6_4 as the middle chord, then with vii°6. Only one note is different—A4 in part (a), second chord, becomes G4 in part (b). This same progression can also be used with a soprano line of $\hat{1}$–$\hat{7}$–$\hat{1}$ by giving the voice exchange to alto and bass, as in parts (c) and (d). The soprano-bass intervals now are 8–6–6, good outer-voice counterpoint. Both of these progressions are reversible: they can move I–vii°6–I6 or I6–vii°6–I. In parts (e) and (f), the soprano and bass move up in tenths (10–10–10), making the unequal fifths (d5–P5) in soprano and alto acceptable.

EXAMPLE 17.12: Tonic expansions with V^6_5, V^4_3, and vii°6

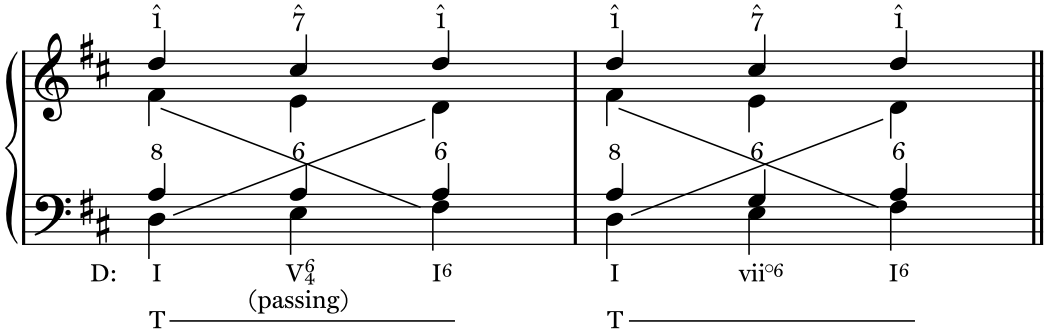
(a) With passing V^6_4, outer voices 10–8–6

(b) With vii°6, outer voices 10–8–6



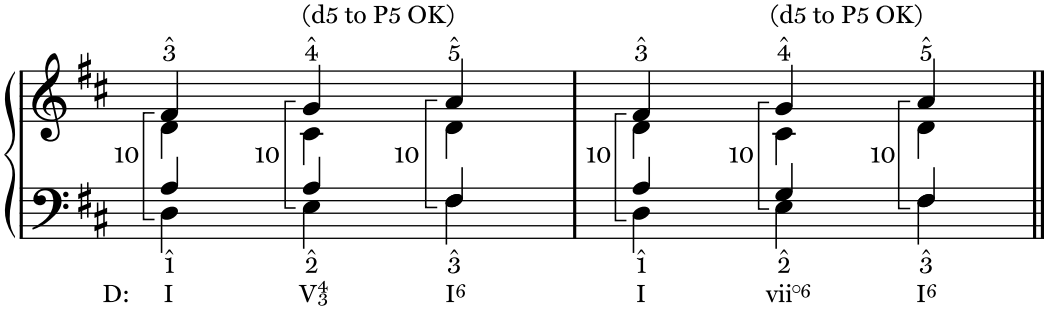
(c) With passing V_4^6, outer voices 8–6–6

(d) With vii$^{\circ 6}$, outer voices 8–6–6



(e) With passing V_3^4, outer voices 10–10–10

(f) With vii$^{\circ 6}$, outer voices 10–10–10

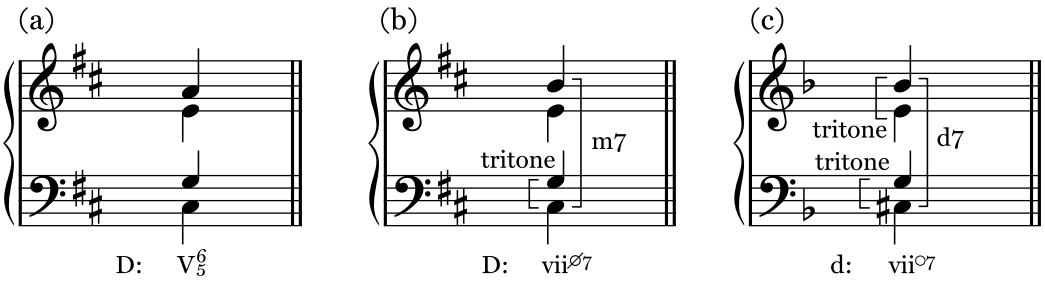


Writing and Resolving vii$^{\circ 7}$, vii$^{\circ 7}$, and Their

Inversions

The seventh chords vii$^{\varnothing 7}$ and vii$^{\circ 7}$ have the same active ingredients as the diminished triad, but with the added sixth scale degree (Example 17.13); in comparison with the dominant seventh chord, you can think of $\hat{6}$ as replacing $\hat{5}$. Since $\hat{6}$ is one of the modal scale degrees, the quality of the diminished seventh chord will change depending on the form of the scale used. Remember that in a minor key, the root of the leading-tone chord is the raised seventh scale degree—it will require an accidental.

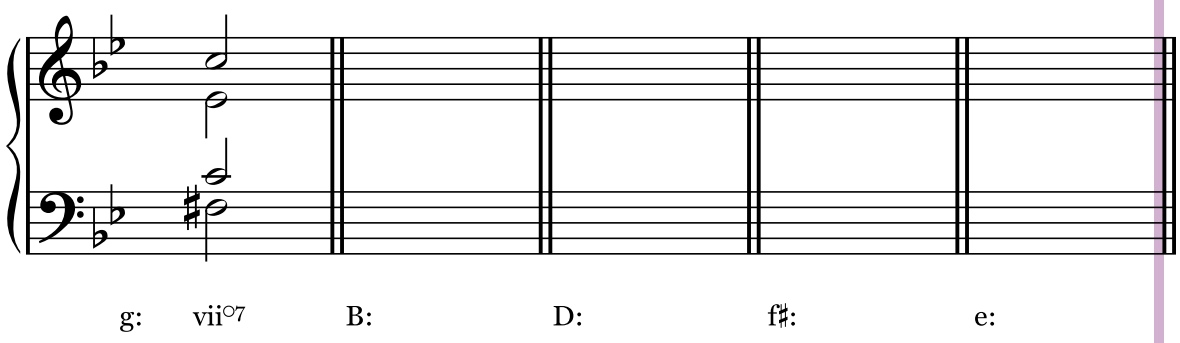
EXAMPLE 17.13: Spelling vii$^{\varnothing 7}$ and vii$^{\circ 7}$ in major and minor keys



Try it #1

For each key given below, write the key signature and leading-tone seventh chord. Check that the chord has the correct quality, and label it as vii$^{\varnothing 7}$ or vii$^{\circ 7}$.

Show answers



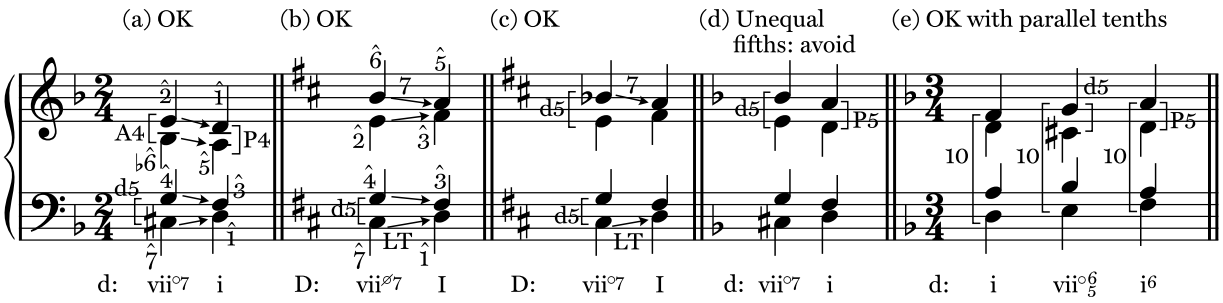
KEY CONCEPT As mentioned earlier, the vii^{ø7} and vii$^{°7}$ are normally written with all four chord members present, in root position or any inversion. Resolve their tendency tones like those of V^7:

- Resolve $\hat{7}$ up to $\hat{1}$.
- Resolve $\hat{4}$ down to $\hat{3}$.
- Resolve the chordal seventh down ($\hat{6}$ to $\hat{5}$ or $\flat\hat{6}$ to $\hat{5}$).
- Move $\hat{2}$ to either $\hat{1}$ or $\hat{3}$.
- This voice-leading may result in a tonic triad with doubled third.

Example 17.14a shows a typical resolution of a root-position vii$^{°7}$ to tonic, with $\hat{2}$ moving down to $\hat{1}$ in a complete tonic triad and the other tones resolving by their tendency: $\hat{7}$ up to $\hat{1}$, $\hat{4}$ down to $\hat{3}$, and $\flat\hat{6}$ down to $\hat{5}$. In part (b), all the tendency tones resolve correctly, but $\hat{2}$ moves up to $\hat{3}$: it can't resolve down to $\hat{1}$ when $\hat{6}$ (B) is above it, or parallel fifths would result. Sometimes in major keys, $\hat{6}$is lowered to $\flat\hat{6}$ (part c), so that the diatonic half-diminished chord is fully diminished (see Example 17.9). In addition to the familiar tritone between $\hat{7}$ and $\hat{4}$, the vii$^{°7}$ (parts c–e) contains a second tritone between $\hat{2}$ and $\flat\hat{6}$ (E and B$\flat$), which introduces the potential for unequal fifths: similar

motion from d5 to P5. Where possible, resolve d5 in to a third, especially the d5 that contains the leading tone.

EXAMPLE 17.14: Resolutions of root-position vii°7–i and vii⌀7–I



Try it #2

Spell the resolutions of $\hat{7}$ up to $\hat{1}$ and $\hat{4}$ down to $\hat{3}$ (or $\flat\hat{3}$) in the following keys.

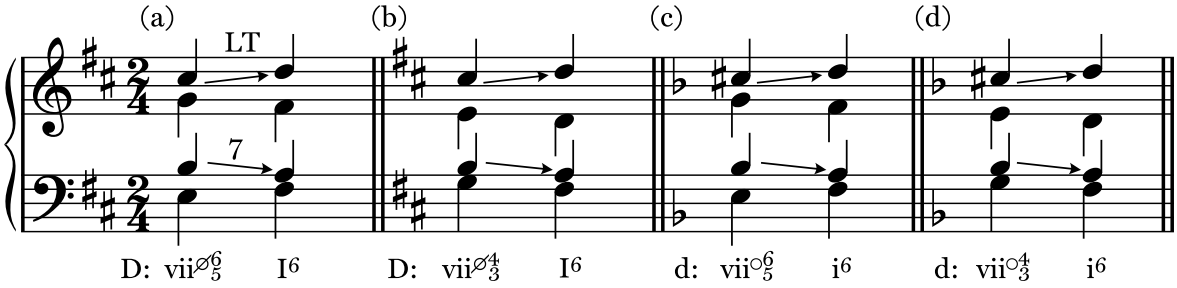
Show answers

KEY	$\hat{7}$-$\hat{1}$	$\hat{4}$-$\hat{3}$ or $\hat{4}$-$\flat\hat{3}$
F minor	E♮–F	B♭–A♭
C minor		
A major		
B minor		
E minor		
A♭ major		

Leading-tone seventh chords are usually found in root position, first inversion, and second inversion; third inversion is rare, as the normal resolution of the tendency tones would result in a second-inversion tonic triad. The vii°7 appears more

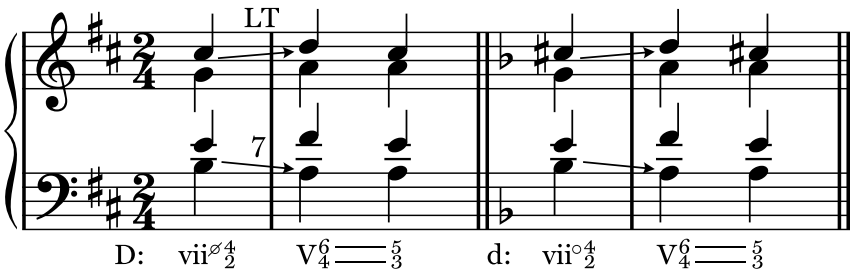
often in music literature than the vii$^{\varnothing 7}$, possibly because of the half-step voice-leading between $\flat\hat{6}$ and $\hat{5}$ in the former (see Example 17.15c and d)—even in major keys (as in Example 17.14c). In each part of the example below, note the resolution of the leading tone up and chordal seventh down, as marked; find each d5 and A4 to see how it resolves.

EXAMPLE 17.15: Common resolutions of vii$^{\varnothing 7}$ and vii$^{\circ 7}$ in inversion



In the less common third inversion (Example 17.16), because $\hat{6}$ or $\flat\hat{6}$ (the chordal seventh) is in the bass, the bass must resolve down to $\hat{5}$, usually to a second-inversion tonic triad—which then resolves as either a cadential or passing $^{6}_{4}$.

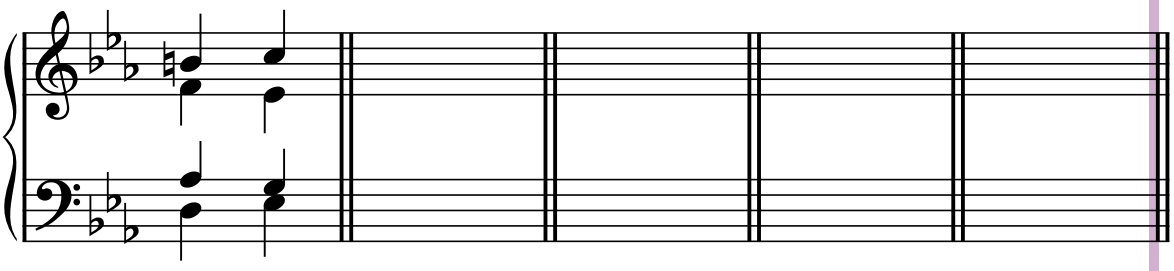
EXAMPLE 17.16: Resolutions of vii$^{\varnothing 4}_{2}$ and vii$^{\circ 4}_{2}$ to cadential $^{6}_{4}$



Try it #3

Try it #3

A. Resolve each leading-tone seventh chord to the tonic in the keys below. **Show answers**



g: vii°$\frac{6}{5}$ i^6 A: vii^{ø7} I b: vii°^{7} i e: vii°$\frac{4}{3}$ i^6 G: vii$^{ø\frac{4}{3}}$ I^6

B. A good exercise to prepare for harmonizing melodies is to plan various soprano-bass contrapuntal patterns, then imagine possible Roman numerals for their harmonization. For each soprano-bass pattern below, provide two harmonizations: one that uses V or V^7 and its inversions, and one with vii°^{6} or vii°^{7} and its inversions. **Show answers**

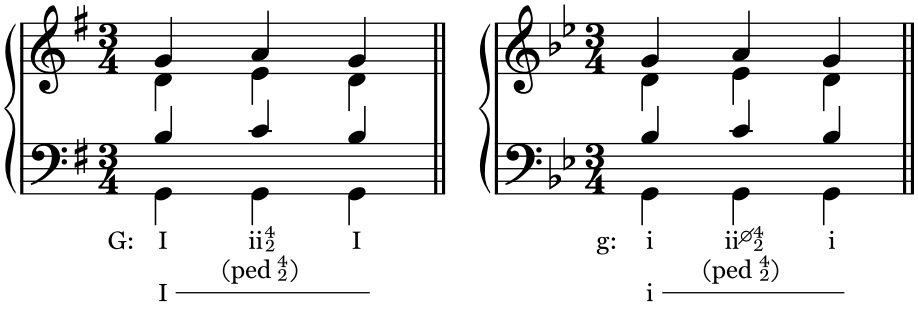
KEY	SOPRANO	BASS	HARMONIZATION 1	HARMONIZATION 2
major	$\hat{3}$–$\hat{2}$–$\hat{1}$	$\hat{1}$–$\hat{2}$–$\hat{3}$	I–V$^6_4$–I^6	I–vii°^{6}–I^6
major	$\hat{1}$–$\hat{2}$–$\hat{1}$	$\hat{1}$–$\hat{7}$–$\hat{1}$		
minor	$\hat{1}$–$\hat{7}$–$\hat{1}$	$\hat{1}$–$\hat{4}$–$\flat\hat{3}$		
major	$\hat{3}$–$\hat{4}$–$\hat{5}$	$\hat{1}$–$\hat{2}$–$\hat{3}$		
minor	$\flat\hat{3}$–$\hat{4}$–$\flat\hat{3}$	$\hat{1}$–$\hat{7}$–$\hat{1}$		

Voice-Leading $\frac{4}{2}$ Chords

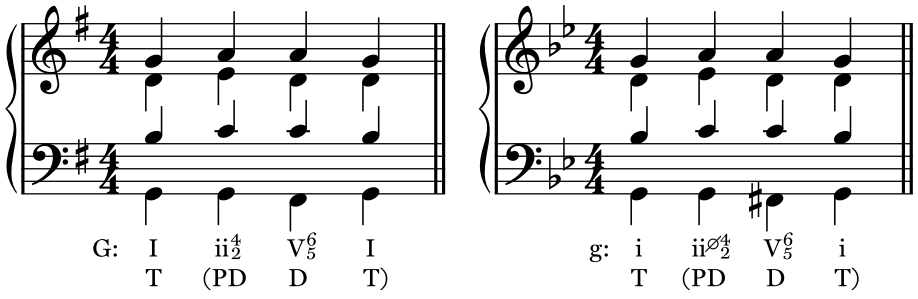
Another chord that can expand the tonic area is the pedal or neighboring ii$^{4}_{2}$ chord. This expansion may be understood as neighbor tones in all three upper parts above a tonic pedal point (Example 17.17a). That the $\frac{4}{2}$ does not resolve its seventh properly (downward by step) is a clue to its voice-leading role.

EXAMPLE 17.17: The pedal or neighboring ii$^{4}_{2}$ chord

(a) Neighbor tones above a tonic pedal



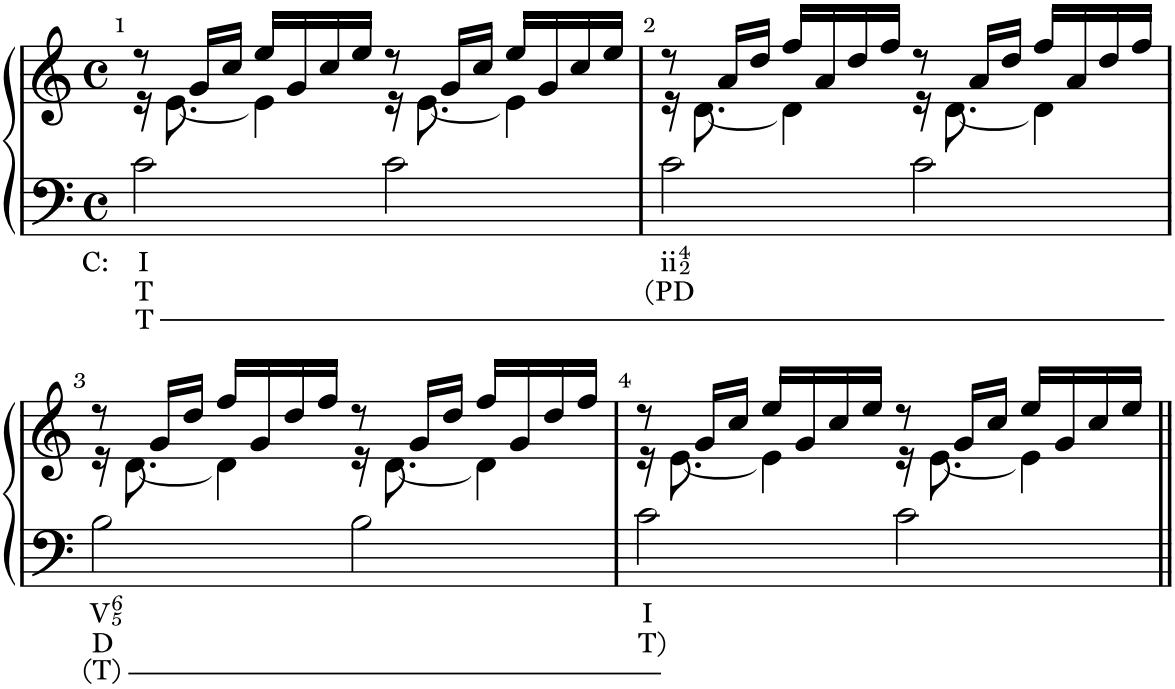
(b) PD–D–T expansion of the tonic



The seventh *does* resolve properly (part b) when ii$^{4}_{2}$ moves to V6 or V$^{6}_{5}$ in a PD–D–T tonic expansion. The opening of Bach's Prelude in C Major (Example 17.18) provides a beautiful example:

the bass line $\hat{1}$–$\hat{1}$–$\hat{7}$–$\hat{1}$ supports the progression I–ii$^{4}_{2}$–V$^{6}_{5}$–I, which firmly establishes the tonic at the beginning of the prelude.

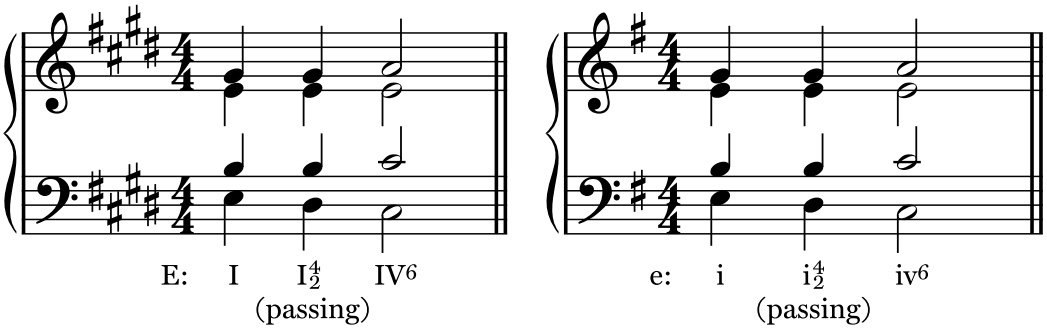
EXAMPLE 17.18: Bach, Prelude in C Major, mm. 1–4

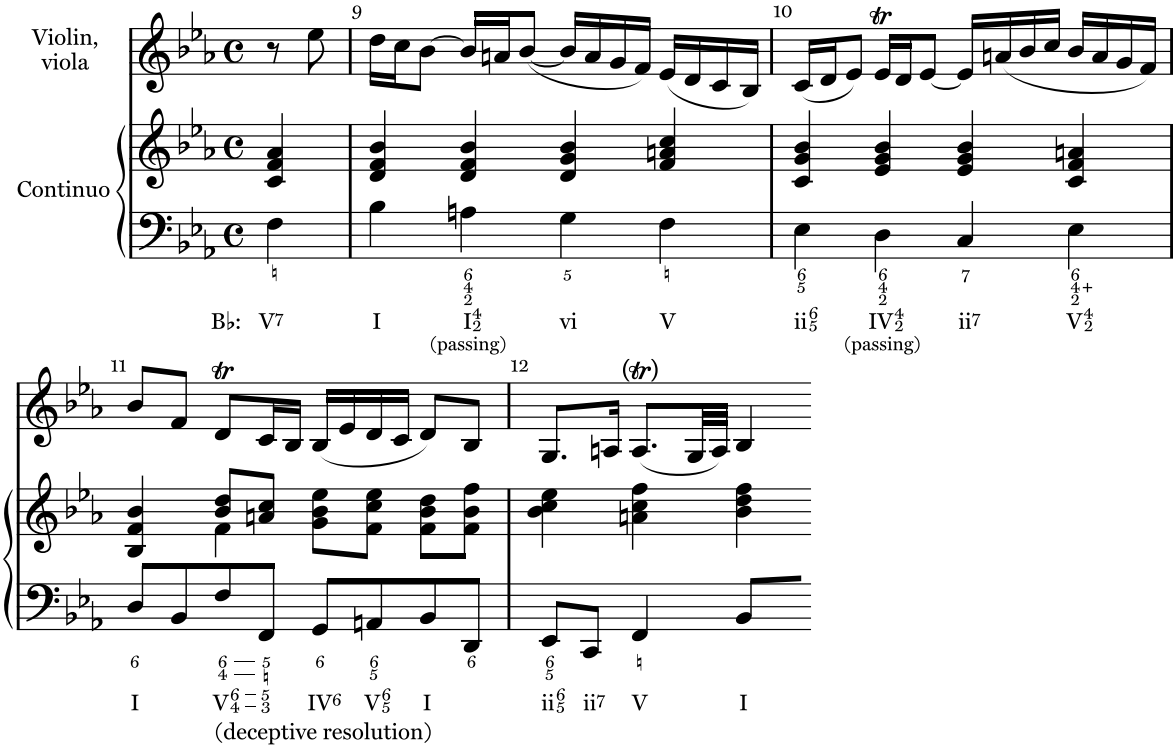


A $^{4}_{2}$ chord may also have a passing function, such as I–I$^{4}_{2}$–IV^{6} or I–I$^{4}_{2}$–vi (Example 17.19). These $^{4}_{2}$ sonorities are created when a passing tone fills in between $\hat{1}$ and $\hat{6}$ in the bass, and are sometimes analyzed with a Roman numeral with $^{4}_{2}$ inversion as here, especially if they last as long as the chords surrounding them. See also measure 9 of Example 17.20 (the passage is in B♭ major; note the A♮s throughout). In measure 10, you might analyze beat 2 as IV$^{4}_{2}$ (passing). Alternatively, you could simply circle and label the bass note as passing, without a new Roman numeral, to show the function of this chord as an expansion of the surrounding harmony. Chords like those are generally fairly unstable, and appear where they are supported by sustained or stepwise motion in the bass to create smooth voice-leading

between functional harmonies.

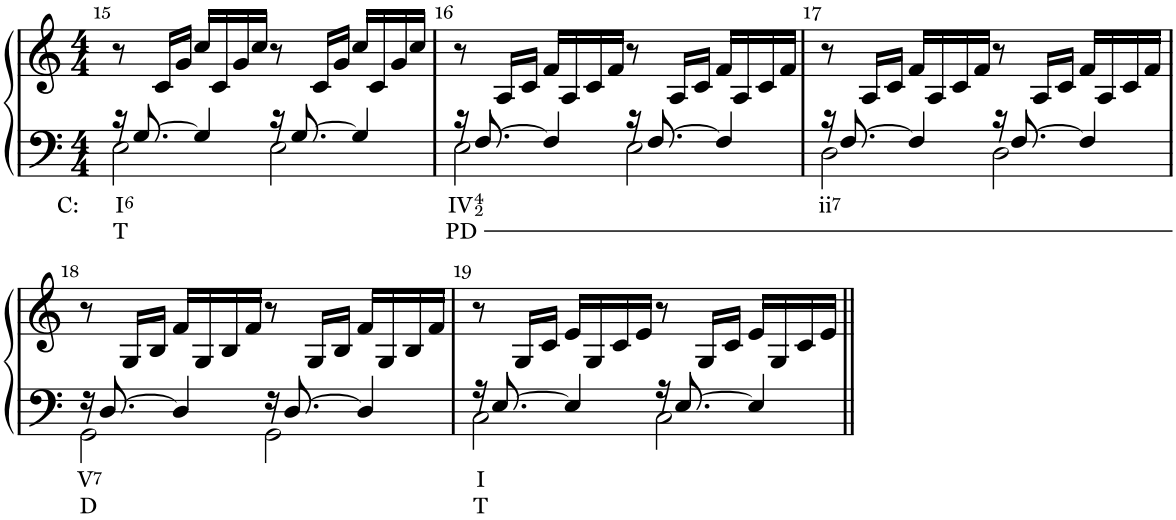
EXAMPLE 17.19: Voice-leading for the passing $\frac{4}{2}$



EXAMPLE 17.20: Bach, Cantata No. 140, mvt. 4, mm. 9–12

Bach's C Major Prelude makes beautiful use of $\frac{4}{2}$ chords. We

saw the opening tonic expansion in Example 17.18. In the later passage shown in Example 17.21, the E3 is held in the bass across the bar line from measure 15 to 16, acting like a bass suspension that resolves down to D3. We have given measure 16 a Roman numeral analysis (IV^4_2), but we might instead think of this as a voice-leading $\frac{4}{2}$ without Roman numeral.

EXAMPLE 17.21: Bach, Prelude in C Major, mm. 15–19



Did You Know?

Compositions from the Baroque and Classical eras offer two ways to think of leading-tone triads and seventh chords. During the early eighteenth century (the end of the Baroque era), composers considered harmony from the viewpoint of counterpoint: chords were conceived linearly, made from melodies in each of the SATB parts. Leading-tone chords were frequently used this way, as tonic expansions, in Baroque chorales.

In the late eighteenth century, composers continued to

pay careful attention to counterpoint, but some began to think of chords as thirds and fifths above a root, making particular harmonic progressions. Although linear leading-tone chords can be found in Classical compositions, they were less suited to the Alberti bass and slower harmonic rhythm than they were to chorales. Instead, Classical composers tended to employ leading-tone chords as dominant substitutes.

Some textbooks from the 1940s–70s describe leading-tone triads as dominant seventh chords without a root, labeled $V^{\circ 7}$ (see Walter Piston, *Harmony* [New York: Norton, 1941/1987]). While this view led to jokes about whether or not to double the missing root, there is a grain of truth to it —the leading-tone chord often appears in progressions where a V or V^7 could have been used instead. This idea of $vii^{\circ 6}$ as a V^7 without a root is an old one, dating back to Jean-Philippe Rameau's theories of chord progressions in the early eighteenth century. When Rameau wrote a "fundamental bass" (an analytical bass line written on a staff under the music's bass line, indicating the roots of each chord), for the vii° chord he designated the root as $\hat{5}$.

TERMS YOU SHOULD KNOW

dominant substitute
diminished seventh
half-diminished seventh
leading-tone chord
neighboring $\frac{4}{2}$
passing $\frac{4}{2}$

QUESTIONS FOR REVIEW

1. In what context(s) might a vii$^{\circ 6}$ or vii$^{\circ 7}$ be written?
2. What chords (and inversions) typically pass between I and I^{6}?
3. What soprano-bass scale-degree patterns are normally associated with tonic expansions from I to I^{6}?
4. How does each scale degree in the leading-tone seventh chord usually resolve?
5. How are the d5 and A4 treated when resolving the vii$^{\circ 7}$ chord and its inversions?
6. Which leading-tone seventh chord is found more frequently: vii$^{\varnothing 7}$ or vii$^{\circ 7}$? Why?
7. What outer-voice contrapuntal pattern overrides the tendency of the chordal seventh to resolve down?
8. Where are passing and neighboring $\frac{4}{2}$ chords used?
9. In music for your own instrument, find an example of a vii$^{\circ 7}$ chord and describe its function within the phrase.

Know It? Show It!

Focus by working through the tutorials.

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18 Phrase Structure and Motivic Analysis

Outline

Phrase and motive
- Motives and motivic analysis
- The sentence

Phrases in pairs: The period
- Phrase diagrams
- Parallel and contrasting periods
- Writing parallel and contrasting periods
- Other period types

Phrase rhythm
- Phrase structure and hypermeter
- Linking phrases
- Phrase expansion

Overview

In this chapter, we consider how phrases may be grouped and expanded, and how motivic and phrase analysis can inform musical interpretation.

Repertoire

Ludwig van Beethoven
- Piano Sonata in C Minor, Op. 13 (*Pathétique*), mvt. 3
- Sonatina in F Major, Op. Posth., mvt. 2

Johannes Brahms, *Variations on a Theme by Haydn*

Muzio Clementi, Sonatina in C Major, Op. 36, No. 1, mvt. 1

Stephen Foster, “Oh! Susanna”

Wolfgang Amadeus Mozart
- Piano Sonata in B♭ Major, K. 333, mvt. 1
- Piano Sonata in C Major, K. 545, mvts. 1 and 2
- Piano Sonata in G Major, K. 283, mvt. 1
- “Voi, che sapete,” from *The Marriage of Figaro*

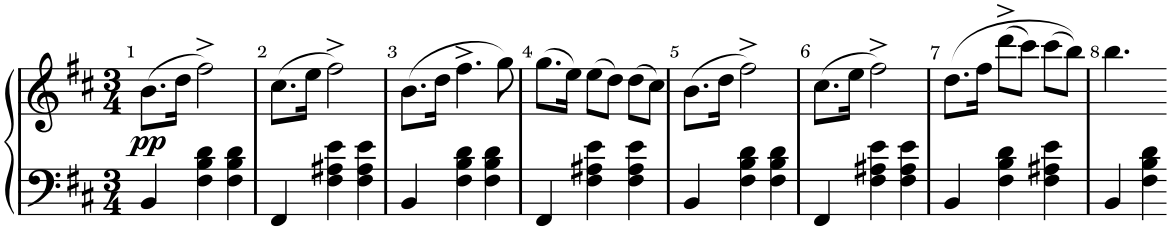
Franz Schubert, Waltz in B Minor, Op. 18, No. 6

Phrase and Motive

In your instrumental or voice lessons, you may have discussed "phrasing" with your teacher. An important part of preparing a piece for performance is determining how it divides up, where the goals are, and how to perform it with directed motion toward these goals. For our purposes, the word "phrase" will not be used as a verb—we will not consider how to "phrase" a melody (at least not in those terms). Instead, the word is used as a noun, one with a distinct meaning.

KEY CONCEPT As we learned in Chapter 11, a phrase is a basic unit of musical thought that ends with a cadence. Phrases are often two, four, or eight measures long, especially in the Classical era, but they may be other lengths as well.

Listen to the opening of a Schubert waltz (Example 18.1) to determine where the phrase or phrases end.

EXAMPLE 18.1: Schubert, Waltz in B Minor, mm. 1–8

You probably heard a strong cadence in measure 8, a PAC in B minor with a stepwise melodic descent to $\hat{1}$. But there is a subsidiary resting point at measure 4, where the melody makes a similar descent to $\hat{2}$ over a V^7 harmony. At this point, the entire

texture starts again (mm. 5–6 are identical to 1–2), marking a clear division of the passage into two four-bar phrases. The cadence at measure 4 is a HC, on a dominant seventh chord (the half cadences we have seen to this point have concluded with a triad; Romantic and popular styles may include a seventh as well).

Because measure 5 expresses the tonic harmony, you may be tempted to view it as a "resolution" of the V7 in measure 4, rather than a phrase boundary, but a couple of factors work against this interpretation. First, the restatement of the opening material here signals a new beginning. Second, this restatement coincides with the expectation of regular and even measure groupings (in twos and fours) in a waltz style, which would be easier to dance. In performance, the two phrases might be delineated by subtle changes in timing and dynamic shaping, with an ebbing of energy in measure 4 and a tempo resurgence at measure 5.

Motives and Motivic Analysis

The melody of Schubert's waltz is marked by a repeated ♫ rhythm, which appears (in varied form) in almost every measure.

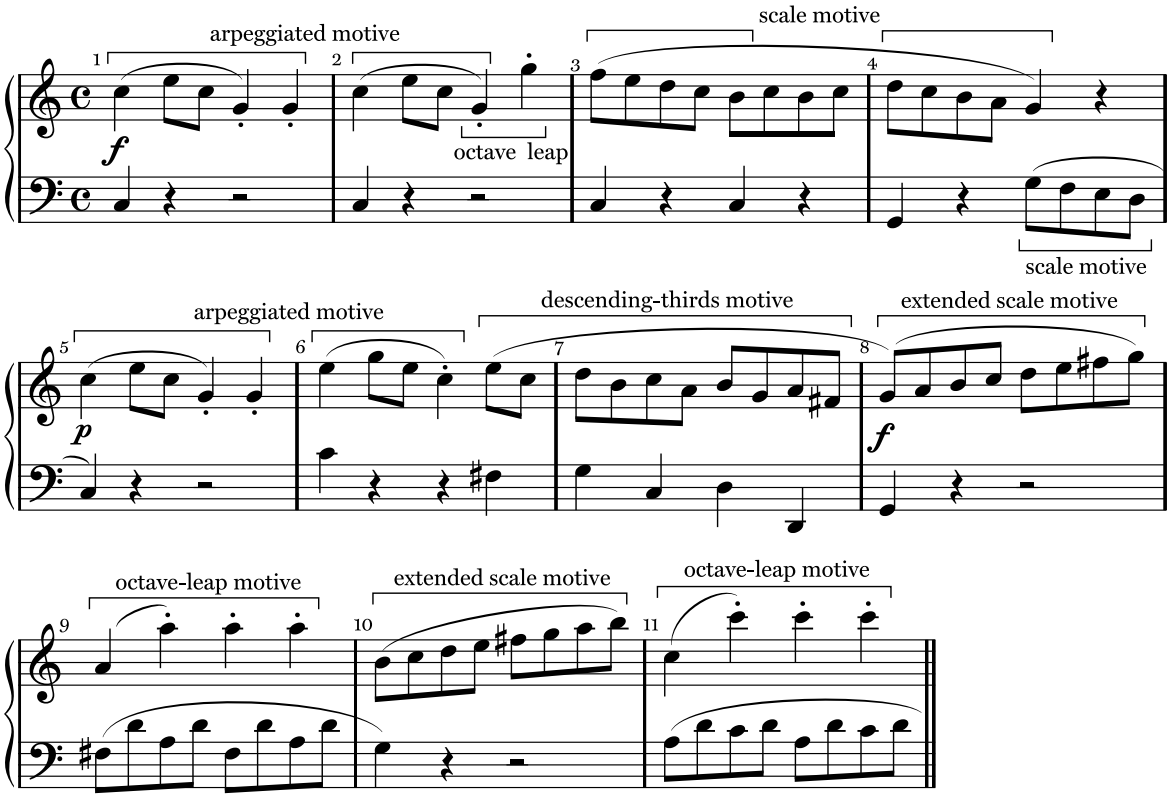
KEY CONCEPT A **motive**, the smallest recognizable musical idea, is characterized by its pitches, contour, and/or rhythm; it rarely contains a cadence. For a musical segment to qualify as a motive, it must be repeated either exactly or in varied form (for example, transposed or embellished).

A motive may be purely rhythmic (maintaining its distinctive durations while possibly changing its contour and intervals) or consist simply of a melodic contour (maintaining its shape but changing its intervals and possibly its rhythm). In the Schubert

waltz, for example, the opening right-hand motive (♫) appears first as an ascending triad and then as an ascending third plus step. The first beat of this motive, the ascending third portion, is heard in several transpositions: on B4 (mm. 1, 3, and 5), C♯5 (mm. 2 and 6), and D5, approaching the high point of phrase 2 (m. 7); in measure 4, it appears as a *descending* third from G5.

In music analysis, label motives with numbers or lowercase letters from the end of the alphabet (x, y, z)—we reserve the beginning of the alphabet for phrases and larger formal units—or give them a descriptive name: the scale motive, the arpeggiated motive, the neighbor-note motive, the dotted motive, and so on. For a sample analysis, look at melodic motives from the beginning of a Clementi sonatina (Example 18.2).

EXAMPLE 18.2: Clementi, Sonatina in C Major, mvt. 1, mm. 1–11



Much of this passage can be interpreted through the lens of a few motives. First, measures 1–2 and 5–6 are related by the same opening ("arpeggiated") motive. Similarly, the five-note descending scale that begins measure 3 ("scale motive") reappears twice in measure 4. The repeated descending-thirds pattern that permeates measure 7 might derive from the second and third pitches of the arpeggiated motive, or measure 7 could be thought of as the scale motive ornamented with descending thirds. Finally, the octave leaps in measures 9 and 11 are an expansion of measure 2's octave leap.

KEY CONCEPT Motives may be varied in a number of ways. They may be

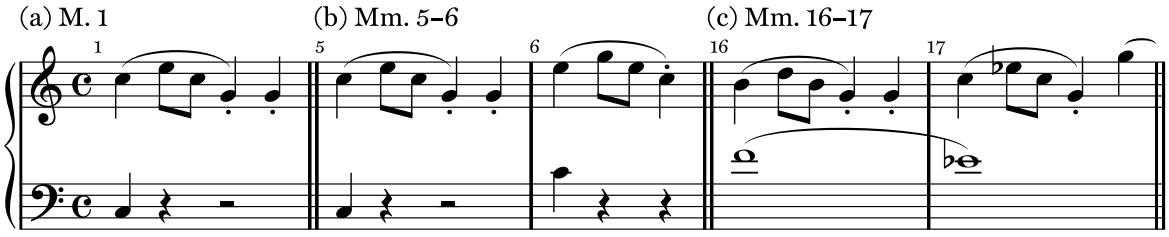
- **transposed** to appear on another scale degree;
- **inverted** so that the direction of each diatonic interval is reversed;

- **extended** by repeating a portion of the motive to make it longer;
- **truncated** by cutting off the end to make it shorter; or
- **fragmented** by taking a small (but recognizable) piece of the original and repeating it with transpositions or other variation.

The arpeggiated motives in measures 2 and 6, then, are truncated, since they are one beat shorter than the original. The scale motives of measures 8 and 10 are both extended and inverted, and the octave-leap motives of measures 9 and 11 are transposed and extended. In analysis, first identify motives by their shape and repetition, then look for possible transformations in rhythm, contour, or intervals that help to unify the passage. Above all, use your ears!

When motives are transposed or inverted, they usually retain their basic interval structure—that is, a third remains a third—but the quality may change from major to minor or vice versa, as in Example 18.3.

EXAMPLE 18.3: The arpeggiated motive in Clementi sonatina

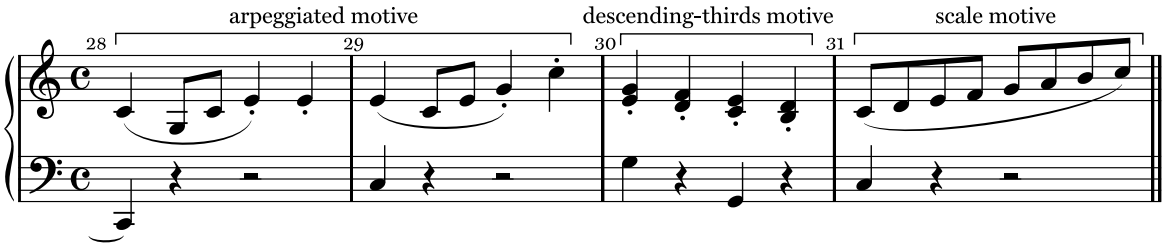


When Clementi transposes the original motive, its major third (C5–E5) becomes a minor third (E5–G5) in measure 6 (part b). In 16–17 (part c), this initial interval is likewise altered to a minor third; by transposition (16) and by a shift to the minor mode (17). The motive's final interval, originally a perfect fourth, becomes a major third in 6 and 16, but returns to a perfect

fourth in 17–all without disrupting the motive's identity. Since this identity rests heavily on contour and rhythm, these slight changes in interval size or quality do not disrupt our recognition of it.

The phrase in measures 28–31 (Example 18.4) begins with the arpeggiated motive, but here its contour is inverted–turned upside down, like a reflection in a mirror. Measure 30 is derived from the descending-thirds motive of 7, but with the thirds stacked harmonically as quarter notes instead of successive eighth notes. And at the end of the phrase, the scale motive from 3–4 is inverted and extended.

EXAMPLE 18.4: Inverted motives in Clementi sonatina, mm. 28–31



KEY CONCEPT To invert a motive, keep the order of interval sizes the same, but reverse each interval in direction—for example, an ascending third becomes a descending third. To invert a contour motive, reverse the direction of each step, skip, or leap—but you may change the interval size.

In tonal music, inversions are often constructed so their pitches remain within the key or harmony of the passage; the quality of some intervals will change, or their size will be adjusted slightly (such as a P5 to P4). In measure 28 of Example 18.4, for instance, Clementi retains the tonic harmony of the

inversion by making the original ascending third a descending *fourth* instead.

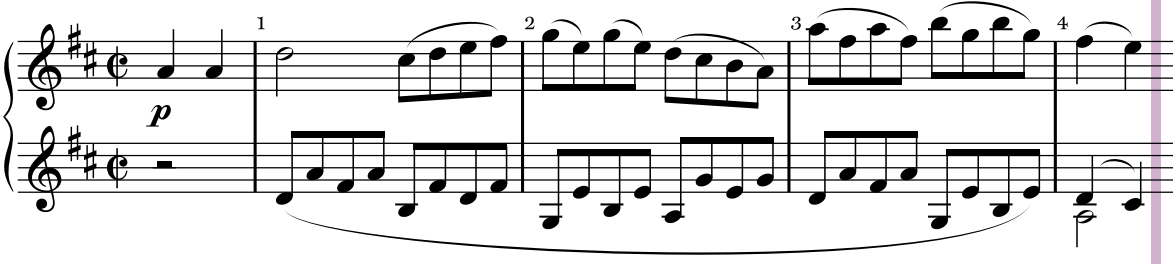
Motivic analysis, a topic that has long fascinated music analysts and composers, can reveal remarkable economy and unity, generating complete and satisfying larger forms from a handful of motives. Identifying the primary motives and their transformations can also help you memorize a piece as well as shape a musical and satisfying performance.

Try it #1

Listen to the passage from Mozart's Piano Sonata in D Major shown below. Identify two motives in the right hand; bracket them and label them x and y. In the blanks, describe in a few words how each motive is varied and in which measure.

Mm. 1–4

Show answers



x:

_____ measure: _____

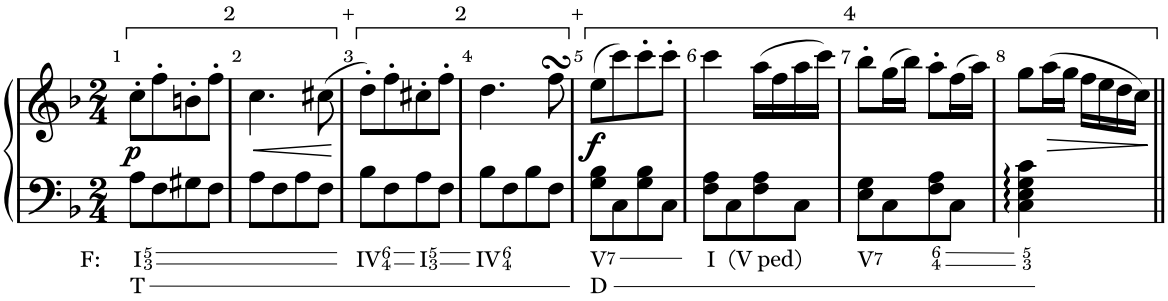
y:

_____ measure: _____

The Sentence

Listen now to a Beethoven sonatina to hear how motives may be combined and developed into larger structures. The opening eight measures are given in Example 18.5.

EXAMPLE 18.5: Beethoven, Sonatina in F Major, mvt. 2, mm. 1–8



The passage begins with a chromatic neighbor-tone motive (C5–B♮4–C5) in the right hand, with a tonic pedal in the highest and lowest voices. This motive is repeated a step higher in measures 3–4 (D5–C♯5–D5). Each statement lasts two measures, and they are followed by a four-measure continuation and cadence (mm. 5–8). The first two units share a rhythmic motive (♫♩) and staccato articulation. The third unit continues the rhythm and staccato, now over a dominant pedal point, followed by a rhythmic acceleration with sixteenths leading into the cadence. Importantly, the phrase's harmonic motion is incomplete at measure 4 (mm. 1–4 constitute a **subphrase**); all eight measures are needed to complete the phrase. The measure grouping of 2 + 2 + 4 is so common in Classical-era melodies that it has a name.

KEY CONCEPT A **sentence** generally consists of eight measures in a 2 + 2 + 4 design, or four measures in a 1 + 1 + 2

design. The first two units of the sentence do not end with a cadence, but require the third portion for closure.

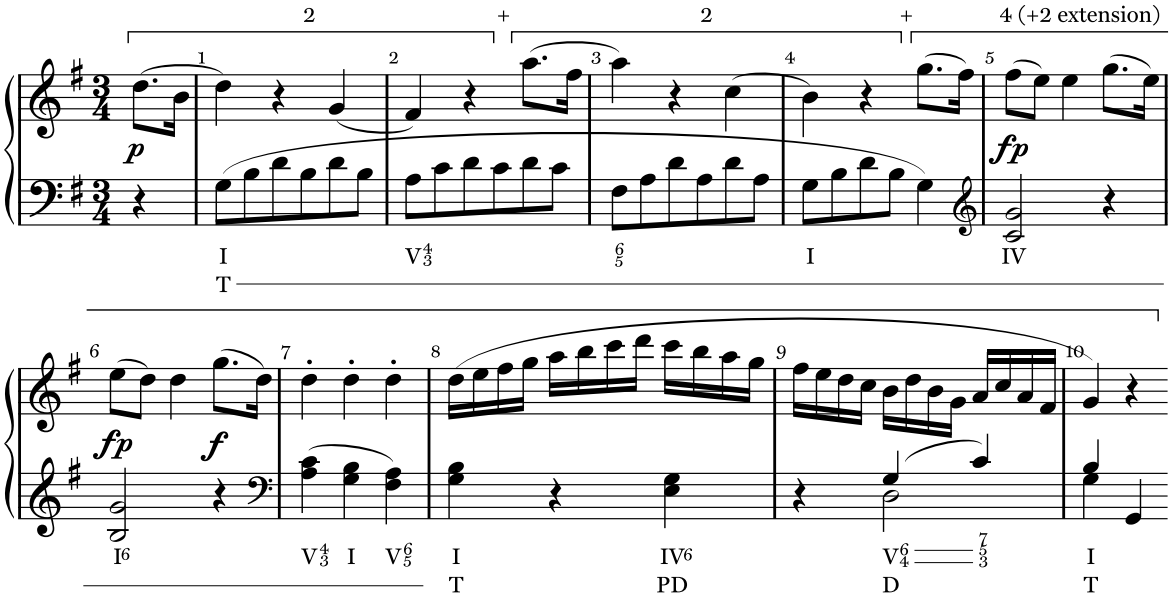
- In the first unit, a motive (sometimes called the "basic idea") is stated, typically over tonic harmony.
- In the second unit, the motive is restated, usually varied or transposed, often over a dominant harmony or progression that expands the tonic area.
- In the third unit, the motive is broken up and developed with an accelerated harmonic rhythm as the phrase moves toward the cadence, usually a HC or PAC.

The opening motive plus its restatement are considered the "presentation" phase of the sentence, with the final unit constituting the "continuation" and cadence. This continuation phase typically begins with some element of the introductory motive, such as its rhythm, before moving toward the cadence. Many Classical melodies, like those of Schubert and Clementi we looked at earlier, are composed with elements of the sentence design—such as a repeated one-measure idea that creates a 1 + 1 + 2 grouping. We will reserve the term "sentence," though, for cases where the presentation phase is harmonically incomplete, and the continuation is necessary to reach a true cadence.

For a slightly expanded example of a sentence, listen to the opening of Mozart's G Major Sonata, given in Example 18.6. Here, a ♫♩ descending-third motive followed by a slurred $\hat{1}$–$\hat{7}$ quarter-note pattern is presented as the basic idea in measures 1–2 and answered in 3–4 by a repeat of the dotted motive up a fifth and quarter-note $\hat{4}$–$\hat{3}$, all within the tonic area of the phrase. The continuation takes the ♫ rhythmic motive and develops it by expanding the interval from a second (m. 4) to third (m. 5) to fourth (m. 6), still within the tonic area without a cadence. Mozart continues to avoid strong closure at measures 7–8, but rather adds a scalar flourish that postpones the PD–D–

T close until measures 9–10—resulting in a 2 + 2 + 4 (+2 extension) sentence. We will encounter other extended phrases later in the chapter.

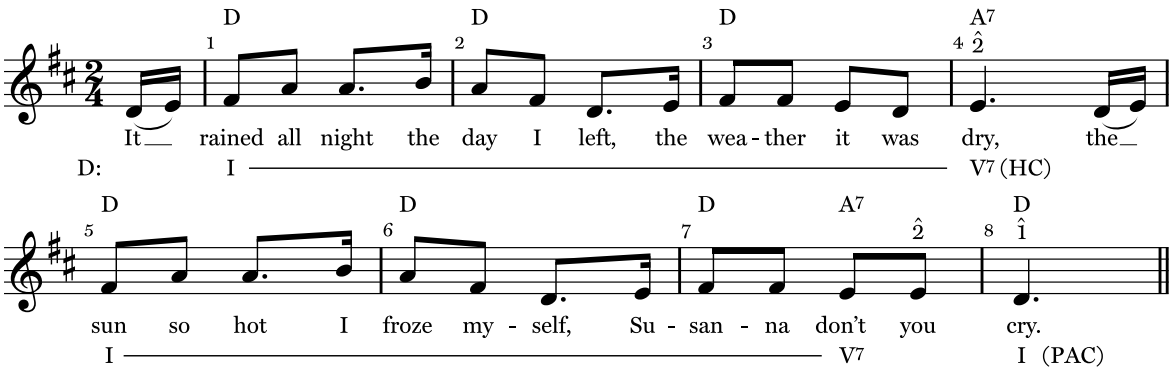
EXAMPLE 18.6: Mozart, Piano Sonata in G Major, mvt. 1, mm. 1–10



Phrases in Pairs: The Period

We now consider how phrases combine to make larger musical structures. Listen to "Oh! Susanna" (Example 18.7), and examine its phrase structure.

EXAMPLE 18.7: Foster, "Oh! Susanna," mm. 1–8



This melody's harmonic structure is a familiar one, common in music from the Classical era as well as folk and popular songs: I to V or V^7 (HC) in the first phrase, followed by I to V–I (PAC) in the second.

KEY CONCEPT When the first in a pair of phrases ends with a harmonically weak cadence (HC or IAC) and the second with a stronger cadence (usually PAC), they form a **period**. The first and second phrases are called the **antecedent** and **consequent**, respectively.

"Oh! Susanna" is a standard period: the first phrase comes to rest on scale degree $\hat{2}$ over a HC (m. 4), and the second concludes with $\hat{2}$–$\hat{1}$ in a PAC (m. 8). Other folk tunes with this

melodic structure include “Home on the Range,” “Clementine,” and “Red River Valley.” While some musicians restrict the “antecedent-consequent” label to periods with HC–PAC cadences like “Susanna,” our definition focuses on the weak-to-strong relationship of the two cadences to include IAC–PAC and HC-IAC as well. In the latter case, the final cadence must be a strong IAC, with root-position harmonies.

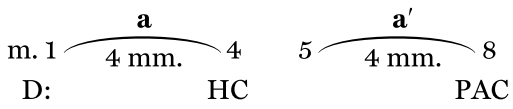
Phrase and period analysis can help in preparing a performance: for example, the arrival on the PAC at the end of the period should be stronger than the arrival on the HC at the end of phrase 1. From the very beginning, you may want to think ahead to the period’s end as your first big harmonic and formal goal.

Phrase Diagrams

When analyzing phrases, we generally label them with lowercase letters from the beginning of the alphabet. Phrases that sound different are assigned different letters—**a**, **b**, **c**, and so on—while those identical in every regard take the same letter. Phrases based on the same musical ideas but not exactly identical receive the same alphabet letter with a prime mark (′): **a** and **a**′, for example. When you use a prime mark, be sure to indicate what is alike about the phrases and also what is different. You may also analyze similar phrases with superscripts, as $\mathbf{a^1}$, $\mathbf{a^2}$, $\mathbf{a^3}$, etc.

The chart in Figure 18.1, for the first eight measures of “Oh! Susanna,” represents the phrase structure concisely, showing the measures spanned, thematic repetitions, and cadence types.

FIGURE 18.1: Phrase diagram for “Oh! Susanna,” mm. 1–8 (parallel period)



Parallel and Contrasting Periods

Besides their harmonic and cadence structure, thematic material also shapes periods. When the two phrases begin identically—as in "Oh! Susanna"—or when the second phrase is audibly a variant of the first, the structure is called a **parallel period** (**a a′**).

When the two phrases begin differently, on the other hand, as in the Beethoven sonata shown in Example 18.8, they form a **contrasting period** (**a b**). The phrases normally share some characteristics—they are not contrasting in every way—but their beginning and overall shape and sound will differ. In this example, the varied return of the bracketed melodic idea from the beginning of phrase 1 at the end of phrase 2 makes an audible connection between the contrasting phrases. Figure 18.2 shows a phrase diagram for this contrasting period.

EXAMPLE 18.8: Beethoven, *Pathétique* Sonata, mvt. 3, mm. 1–8

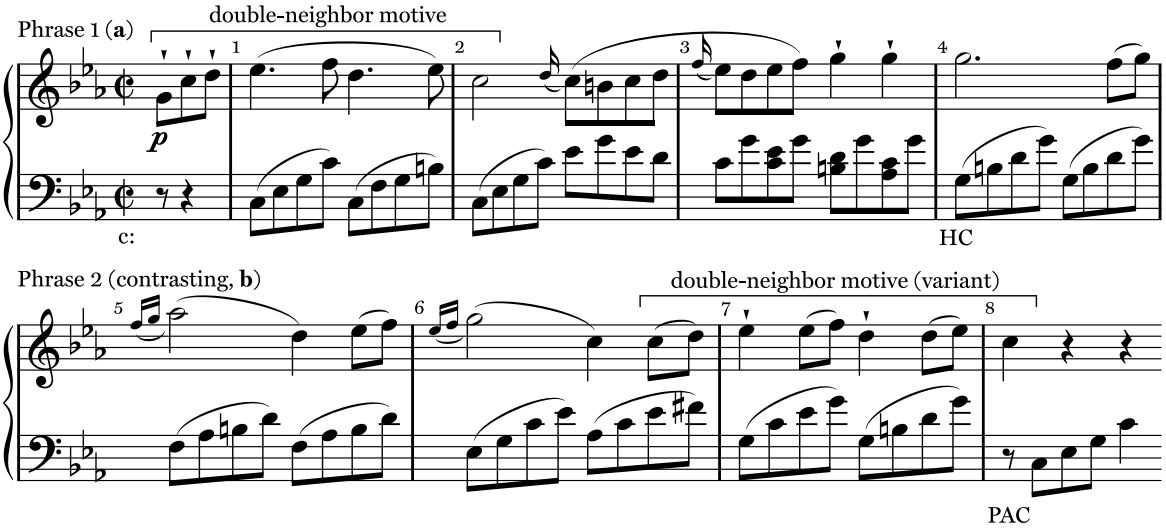
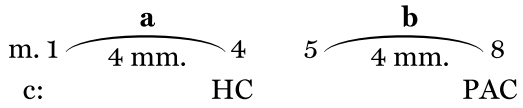


FIGURE 18.2: Phrase diagram for Beethoven sonata, mm. 1–8 (contrasting period)



You may also encounter periods in which a sentence structure is embedded. The Beethoven phrase from Example 18.5, in fact, turns out to be the first part of a parallel period, as shown in Example 18.9: the first phrase ends on a HC and the second on a PAC. Each has a 2 + 2 + 4 sentence design, as diagrammed in Figure 18.3.

EXAMPLE 18.9: Beethoven, Sonatina in F Major, mvt. 2, mm. 1–16

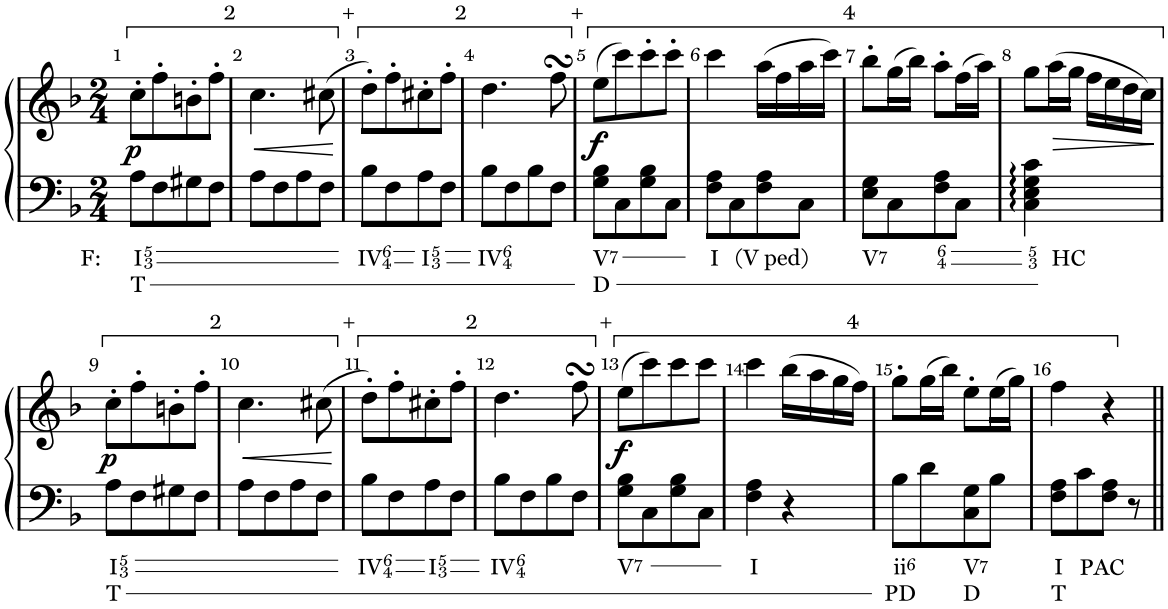
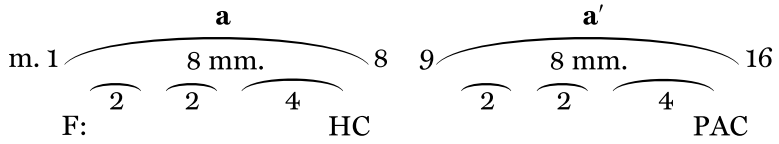
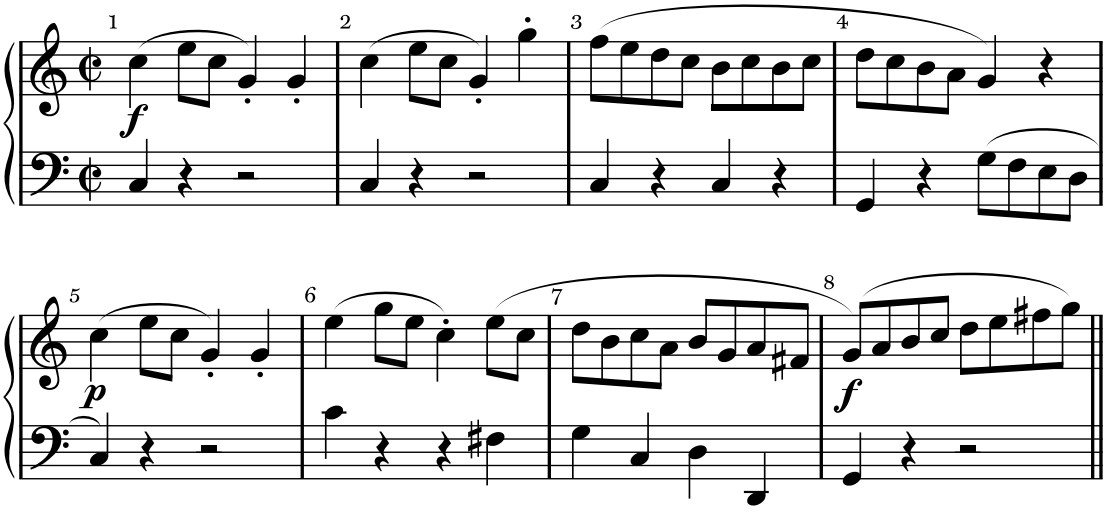



FIGURE 18.3: Phrase diagram for Beethoven sonatina, mm. 1–16 (parallel period with embedded sentences)



Example 18.10 reproduces measures 1–8 of the Clementi sonatina—another parallel period. The first phrase (mm. 1–4) ends with a half cadence (with the melody on $\hat{5}$); the second (mm. 5–8) begins with a repetition of material from the first, but it changes key, with a PAC (mm. 7–8) in G major. (We will further investigate phrases that change key in later chapters on modulation.) We call this a **modulating period**. The modulation may occur in the first or second phrase, though the latter is more common, and its location can be designated in the formal label—for example, the sonatina's phrases can be labeled "antecedent" and "modulating consequent."

EXAMPLE 18.10 Clementi, Sonatina in C Major, mvt. 1, mm. 1–8

In the periods examined so far, both phrases are the same length—either four or eight measures long—making a period that spans eight or sixteen measures. This is not always the

case, however. When the phrases are the same length, the period is called **symmetrical**; when they are different lengths, it is **asymmetrical**.

SUMMARY

A period consists of two successive phrases whose cadences are in the relationship weaker-stronger. The most typical cadence patterns are HC-PAC or IAC-PAC.

- In parallel periods (**a a** or **a a′**), the second phrase often has the character of "starting over," with tonic harmony and thematic material from the opening.
- In contrasting periods (**a b**), the second phrase may begin on the tonic or another harmony, and it features new melodic ideas.
- Phrases that begin with similar but not identical thematic material should be labeled parallel (**a a′**), with a discussion of features that are shared and those that differ.
- A period that changes key is known as a modulating period.

A sentence is a single phrase without a strong internal cadence.

- The measures are grouped by motivic material in the pattern 2 + 2 + 4 (or 1 + 1 + 2).
- The basic idea introduced in the first unit is immediately repeated, usually with slight variation (the presentation).
- The second half of the sentence (the continuation) often develops some motivic feature of the opening idea and then concludes with a

cadence.

- Sentences may be embedded within periods.

Writing Parallel and Contrasting Periods

KEY CONCEPT To write a Classical-style antecedent-consequent pair of melodic phrases with a HC–PAC design:

1. Begin by mapping out eight blank measures on two lines of staff paper—four on the top line and four more aligned beneath them on the second line.
2. Sketch a melodic approach to each cadence: $\hat{3}$–$\hat{2}$ at the end of the first line to suggest a HC, and $\hat{2}$–$\hat{1}$ or $\hat{7}$–$\hat{1}$ on the second line for a PAC.
3. Start measure 1 on a member of the tonic triad ($\hat{1}$, $\hat{3}$, or $\hat{5}$). If you want to include an anacrusis, write one that suggests a dominant harmony.
4. In the first four measures, outline a melody that implies an incomplete phrase model (T–PD–D). Plan your progression with a harmonic rhythm of one to two chords per measure, possibly speeding up near the cadence.
5. Now write a melody that expresses your progression by including arpeggiation or passing and neighboring embellishments around chord tones. Create at least two memorable motives: melodic, rhythmic, or contour. If rhythmic, repeat the rhythm more than once. You may write a sentence as the first half of your period.
6. To make a parallel period, copy one or two measures of your first phrase into the beginning of the second phrase; where possible, continue developing one of the motives as you

complete the period. To make a contrasting period, create a different but compatible melodic idea for the start of the second phrase. End either period with a cadence on the tonic.

7. Most melodies feature one high point, or climax. Build yours so that its highest note is stated only once—probably in the second phrase.

Try it #2

Study the following opening phrases in your anthology. In the first two blanks, provide a letter to show the melodic structure of the specified measures, and abbreviation (HC, PAC, IAC) of the cadence type. If IAC, specify whether the cadence is a strong or contrapuntal IAC. In the third blank, name the period type.

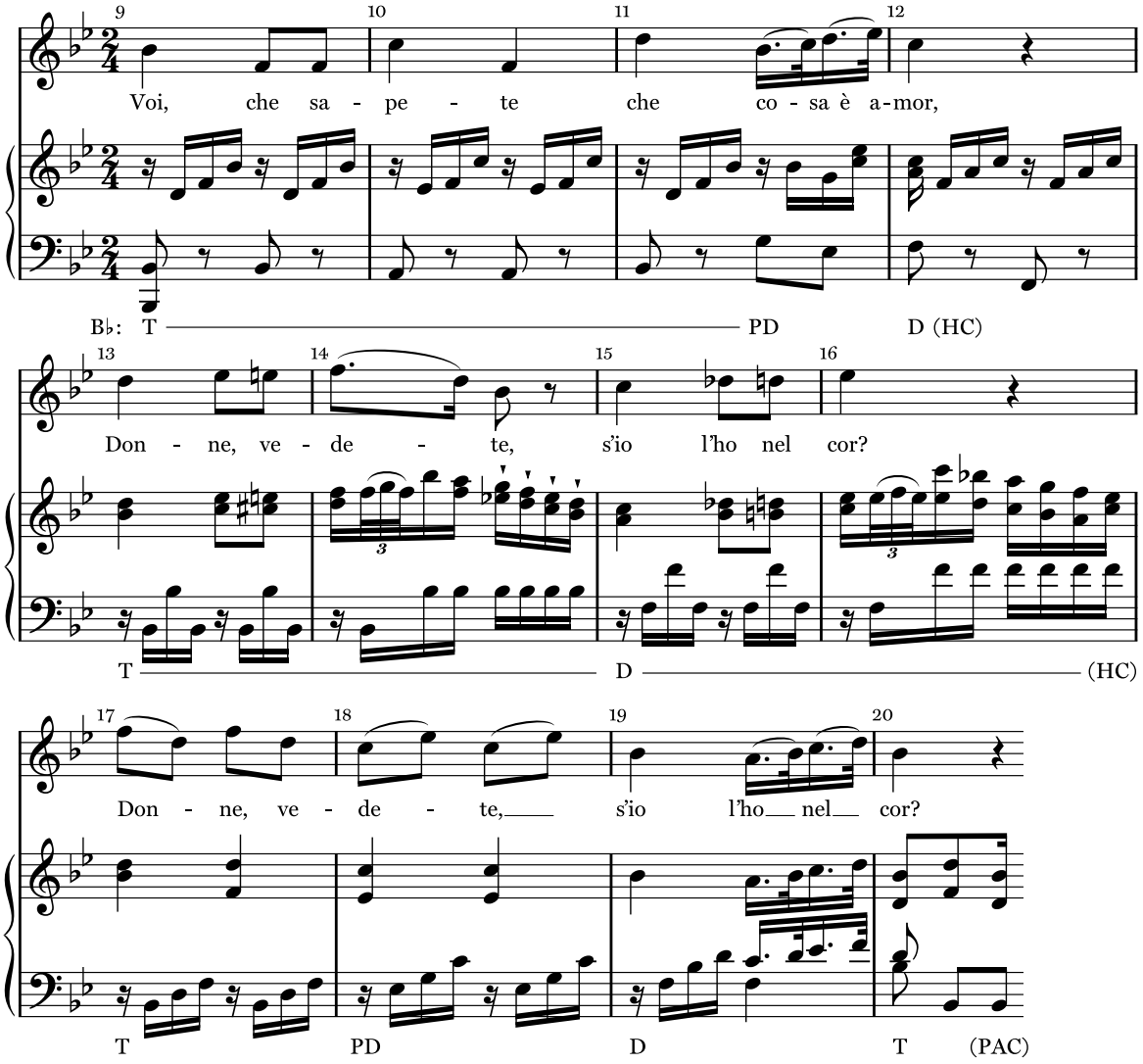
Show answers

EXCERPT	MM. 1–4	MM. 5–8	PERIOD TYPE
(a) Hensel, "Neue Liebe, neues Leben"	**a** (HC)	_____	_____
(b) "Greensleeves"	_____	_____	_____
(c) Mozart, Sonata, K. 284, mvt. 3	_____	_____	_____

What elements make the Mozart example different from the others? What formal ambiguity is present?

Other Period Types

Listen now to the opening of Mozart's aria "Voi, che sapete" (mm. 9–20 are given in Example 18.11), and consider the phrase structure.

EXAMPLE 18.11: Mozart, "Voi, che sapete," mm. 9–20

Translation: You who know what love is, ladies, see if I have it in my heart.

Here are three phrases that clearly form a unit: the first ends with a half cadence (m. 12); the second prolongs the tonic for two bars and then the dominant for two bars, also ending with a half cadence (V^7, m. 16); and the third states the complete basic phrase model (T–PD–D–T) to bring the passage to a close.

In addition, the third phrase ends with a cadential motive (♩ ♬♬♩) that originated in the first (compare mm. 11–12 with 19–20), tying the unit together. Three phrases that belong together, with weak-weak-strong cadences as here, are called a **three-phrase period**, which could be composed variously as **a a b, a b b′** , **a b a′** , or **a b c**.

Another type, the **double period**, consists of four phrases in which the only PAC appears at the end, following three inconclusive cadences. Examine Example 18.12 and the phrase diagram (Figure 18.4) below. Though the main key of the movement is B♭ major, this passage is in F major. As you can see, the four cadences make the pattern IAC–HC, IAC–PAC and a thematic design of **a b a′ b′** . Because phrases 1 and 3 are similar, this passage can be labeled a parallel double period; if they were not similar, it would be a contrasting double period. Several other cadential patterns are possible as well, such as HC–IAC and HC–PAC.

EXAMPLE 18.12: Mozart, Piano Sonata in B♭ Major, mvt. 1, mm. 23–38

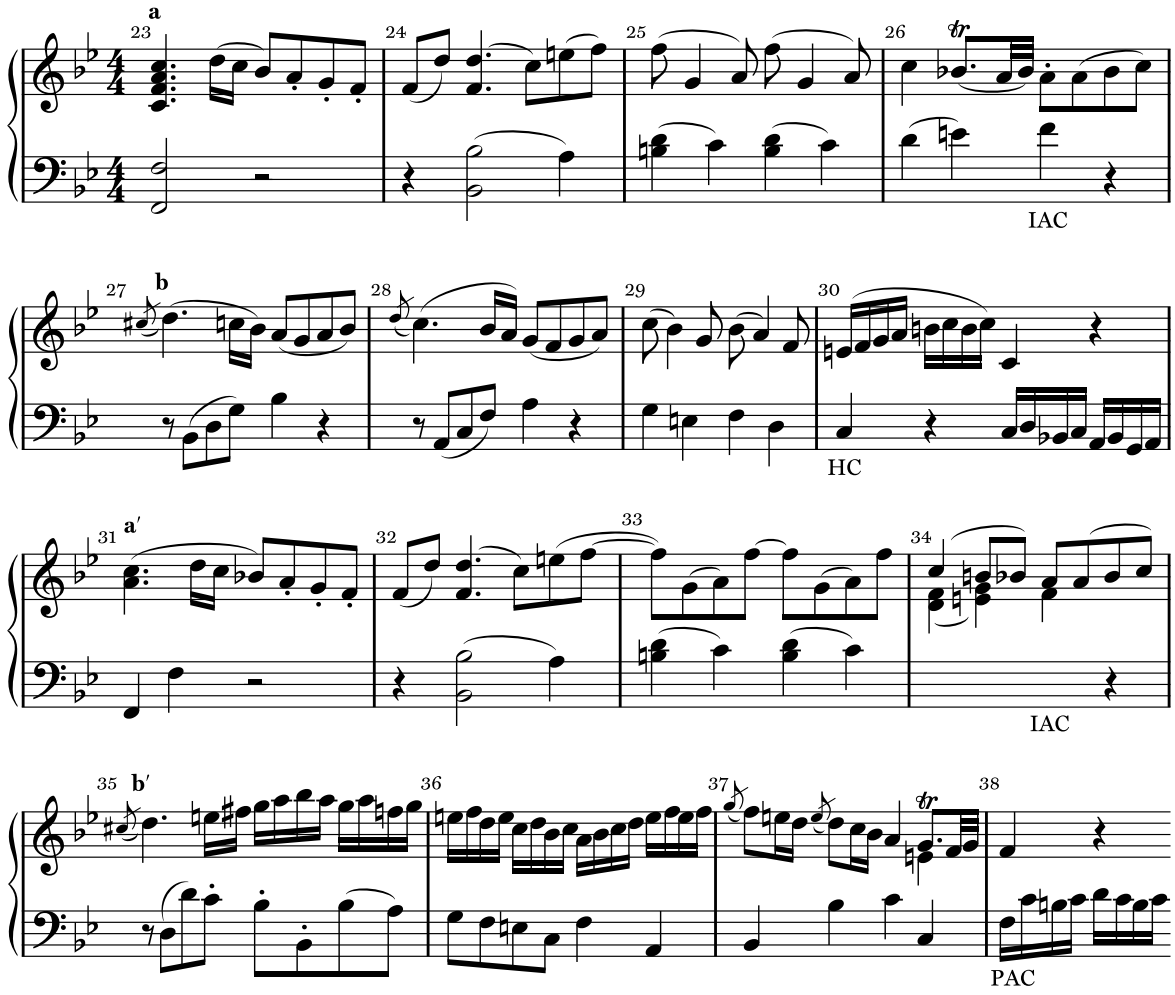
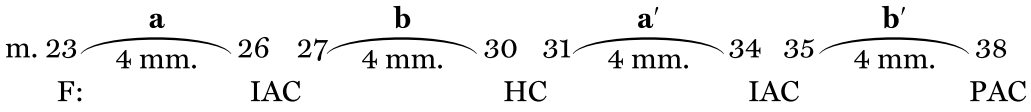



FIGURE 18.4: Phrase diagram for Mozart sonata (double period)



Before labeling a four-part sixteen-measure unit a double period, check the pattern of cadences, since other structures are possible. Four four-measure "phrases" may actually constitute a two-phrase period–if the first and third only expand the tonic and do not conclude with a cadence (if, in other words, they are subphrases).

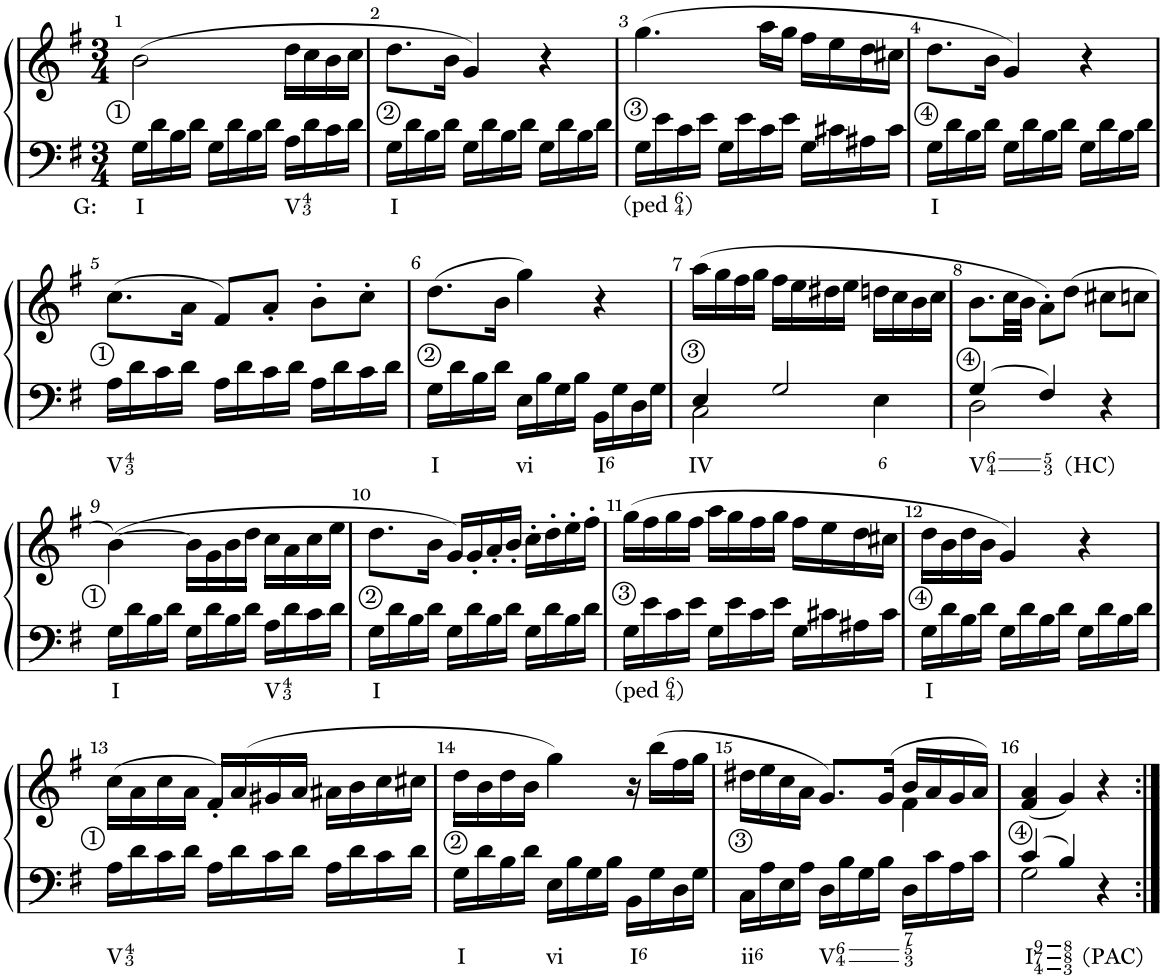
When two, three, or more phrases group together as a unit

but *each* phrase ends with an inconclusive cadence, these comprise a phrase group. Phrase groups often repeat a phrase to create **a b a, a a′ b, a b b′** , or other pattern, or may be united by shared motives.

Phrase Rhythm

Phrase Structure and Hypermeter

Listen to the opening of the lovely second movement of Mozart's Sonata in C Major, shown in Example 18.13. What exactly defines a phrase and subphrase in this passage, where melodic units seem to form clear two-measure groups? How can pianists give the musical line a direction without making the performance sound choppy?

EXAMPLE 18.13: Mozart, Piano Sonata in C Major, mvt. 2, mm. 1–16

The initial four measures divide into two two-measure subphrases that prolong the tonic, the first by a I–V$^4_3$–I succession and the next by means of a neighboring $^6_3$ chord. The first true cadence, a HC, arrives in measure 8, ending this first phrase inconclusively. The next eight measures are then a varied repetition of the first eight, concluding with a PAC. Measures 1–16 therefore constitute a parallel period.

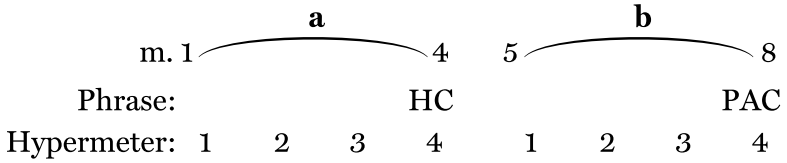
If you were to perform this piece, remember that measures 1–16 form one large unit with two parts; paying too much attention to the shaping of two-measure subphrases could disrupt the perception of the larger design. As for projecting this design, there are two general strategies you could follow. One approach is harmonic: locate the cadences, then move through the harmonies in the middle of the phrase toward the

harmonic goal. The other, a metric strategy, requires you to focus on larger hypermetric levels.

Hypermeter, as discussed in Chapter 2, interprets groups of measures as though they were beats within a single measure. Just as you hear four beats as strong-weak-strong-weak within a measure, you can also interpret four measures as strong-weak-strong-weak. Since Classical-era music is often structured from one-, two-, or four-measure units that combine to make four- or eight-measure phrases that then combine into eight-, sixteen-, or thirty-two-measure sections, it is not surprising that some of these larger structures replicate the accent pattern of the smaller ones. This "nesting" of structural units helps give Classical-era music its feeling of balance and unity.

Hypermeter (the regular metric alternation of strong and weak measures) is typically aligned with phrase structure (the harmonies and melodies that conclude with a cadence), as shown in Figure 18.5.

FIGURE 18.5: Phrase and hypermeter in alignment



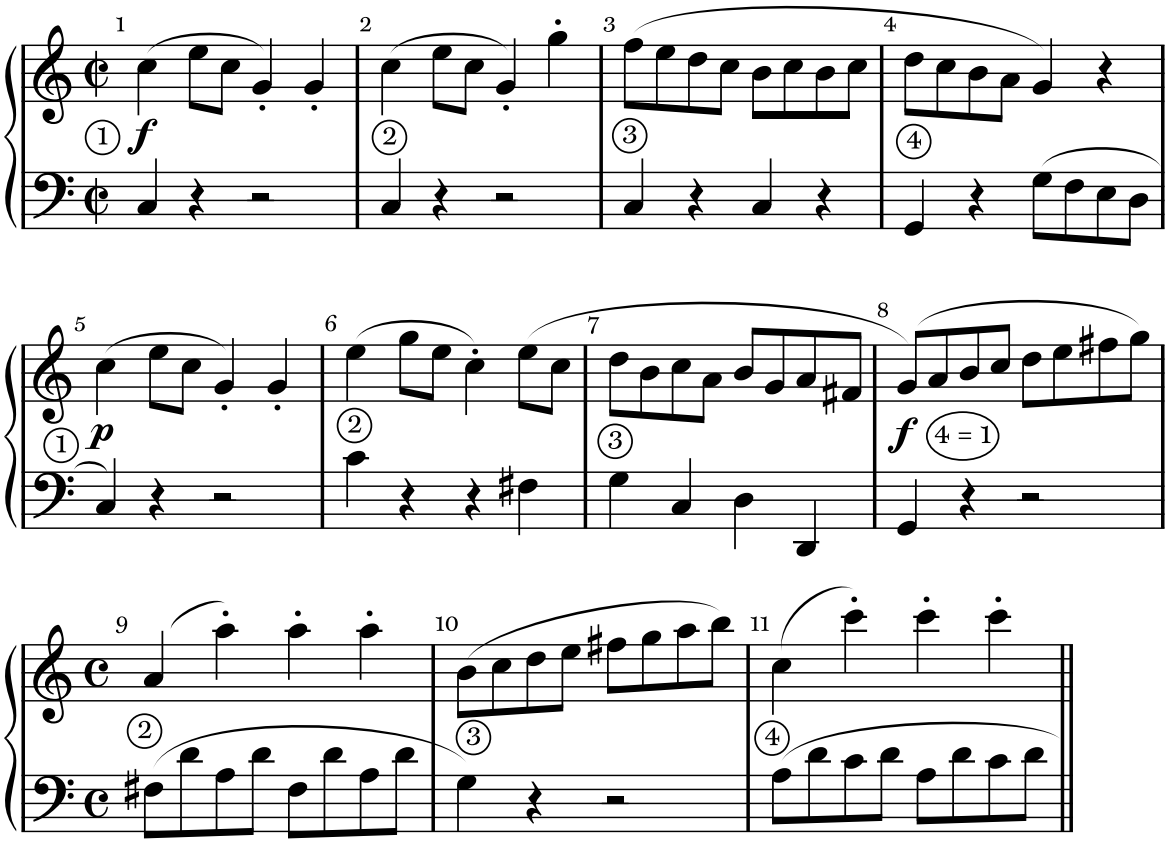
When analyzing the hypermetric structure of a phrase, first determine whether the music suggests four-measure groups. Then number the measures 1–4 (between the staves), again 1–4, again 1–4, and so on, as in Example 18.13. Here, measures 1–4 are strong-weak-strong-weak, as are 5–8; the phrase ending coincides with the end of the second unit.

The interaction of hypermetric structure with phrase structure is known as **phrase rhythm**. In examining phrase rhythm, consider how harmonic, melodic, and motivic aspects

of the phrase fit (or do not fit) within the context of its hypermeter. You might notice, for example, that a phrase has been expanded beyond its four-measure norm, or that measures have been added between phrases. If you are performing the piece, hypermetric analysis might translate into "thinking in one"—one large beat per measure—which can help give your performance a broad sweep and sense of direction. This strategy is particularly helpful for movements in fast tempi, where musicians can get bogged down in all the fast passagework and lose the sense of metrical flow. As you play or sing, try thinking of the strong-weak metric alternation from bar to bar. Don't simply accent the strong bars, though; rather, strive for a gentle ebb and flow of alternating strong and weak, as within a single measure.

Linking Phrases

Adjacent phrases may be linked in various ways. Consider again the opening section of Clementi's sonatina (Example 18.14) for another source of irregular phrase lengths. The first section of this piece spans fifteen measures rather than the sixteen you might expect. Count along while listening to this passage—in four, one beat per bar—to see whether your intuitions about metrically strong and weak measures line up with the conducting pattern.

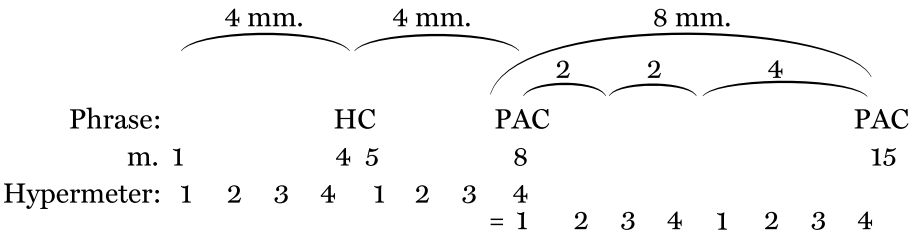
EXAMPLE 18.14: Clementi, Sonatina in C Major, mvt. 1, mm. 1–11

As we have seen, the sonatina opens with a parallel period (4 + 4 mm.). As the period ends on the downbeat of measure 8, another phrase begins simultaneously–indeed, on the same pitch (G), which does double duty as the end of one phrase and the beginning of the next. This is called **phrase elision** or **overlap**. To diagram elided phrases, draw the end of the first phrase so that it overlaps with the beginning of the next, as in Figure 18.6. Compare this diagram with the anthology score.

Another Way

Some musicians distinguish between elision and overlap. With elision, the end of one phrase and beginning of the next are articulated by the same pitch or pitches, as here. With overlap, there is more than one musical layer: while one or more parts finish the first phrase, one or more other

parts begin another.

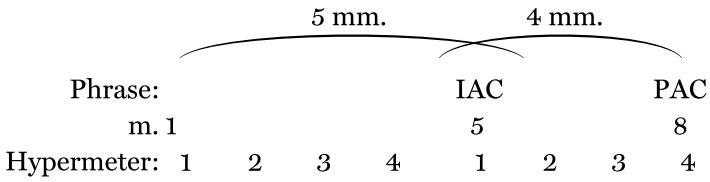
FIGURE 18.6: Metric reinterpretation in Clementi sonatina, mm. 1–15



If you listen for metrically strong and weak bars in the beginning of the sonatina, you will likely be disconcerted at measure 8; it "should" be metrically weak, but the elision reinterprets its role in the phrase, making it the strong initiator of a new four-measure unit. This type of elision, where a disruption of the hypermeter causes a weak measure to become strong, is sometimes called **metric reinterpretation**.

Not all elisions involve metric reinterpretation: for example, if phrase 1 were extended to five measures, its overlap with phrase 2 (Figure 18.7) would not disrupt the strong-weak alternation.

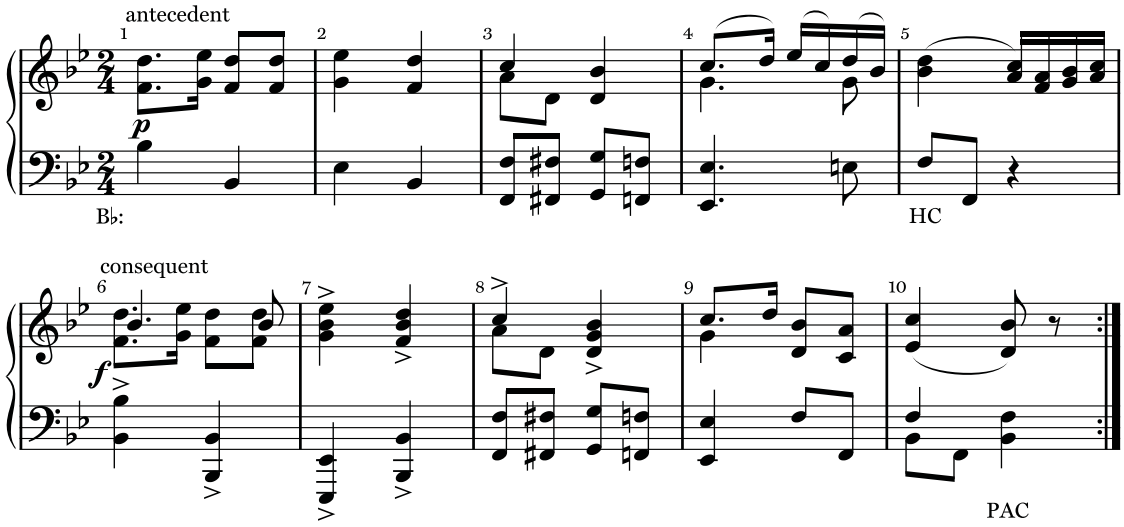
FIGURE 18.7: Elided phrases with no metric reinterpretation



Phrase Expansion

Not all phrases fit into the model of four-bar phrases and hypermeter. Brahms's *Variations on a Theme by Haydn*, for

example, begins with a parallel period made up of two five-bar phrases (Example 18.15).

EXAMPLE 18.15: Brahms, *Variations on a Theme by Haydn*, mm. 1–10 (piano I part)

KEY CONCEPT A phrase that extends beyond a typical phrase length may be viewed as an expansion of an underlying four- or eight-measure phrase. Such phrases may be composed in two ways:

- by **internal expansion**, inserting extra measures in the middle; or
- by **external expansion**, adding measures before the basic phrase begins (as an introduction) or at the end (as a cadential extension or codetta; see Examples 18.18 and 18.19).

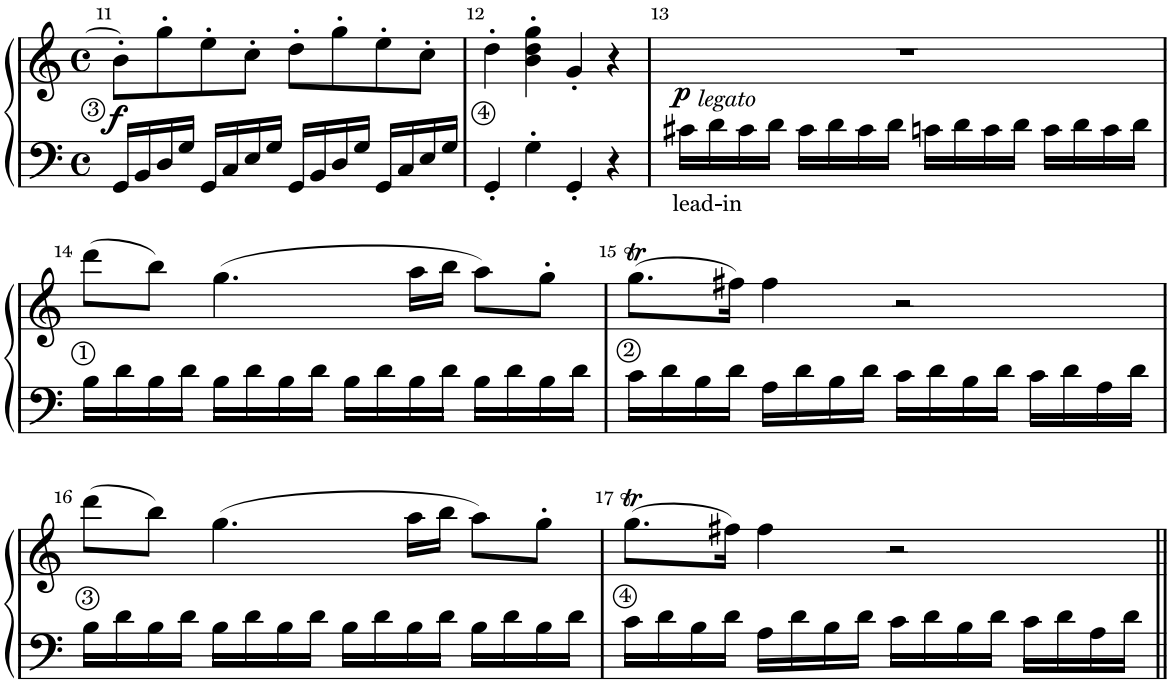
In Example 18.15, if we took out measures 3 and 8, the theme would still convey a perfectly coherent melodic and harmonic structure: T–PD–D and T–PD–D–T. These measures are an

internal expansion that continues the stepwise melodic descent of the melody.

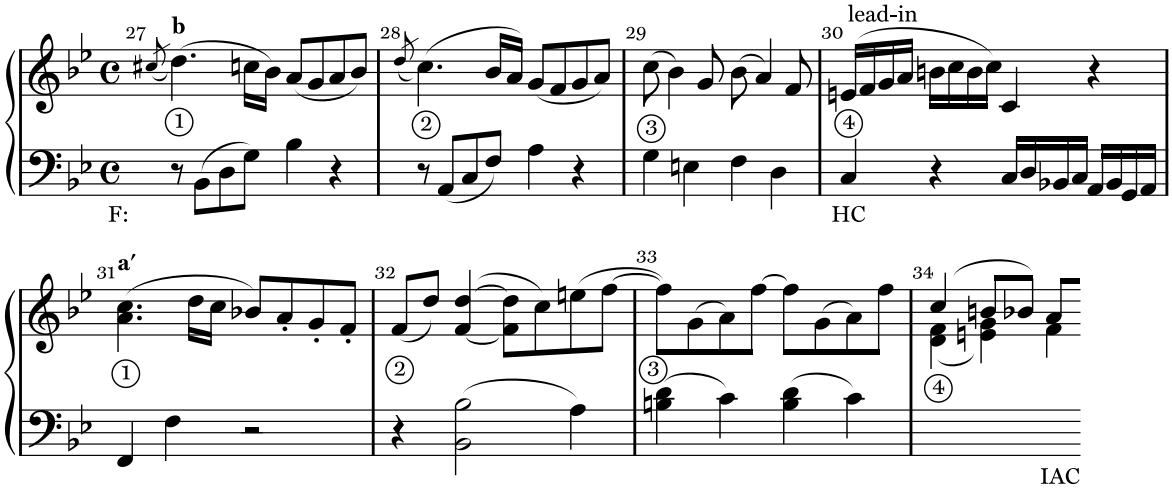
To find phrase expansions, count four-measure units and determine whether the phrases coincide with them or not. A departure from the four-bar norm is one way listeners can tell that the primary thematic material has ended and a transitional passage or coda has begun. In music of the Baroque era, four-bar hypermeter is much less common than in the Classical; it occurs most frequently in small binary forms and dance movements. (Other Baroque genres employ a technique of "spinning out" that will be covered in Chapter 24.) Melodies from the Romantic era are often much longer.

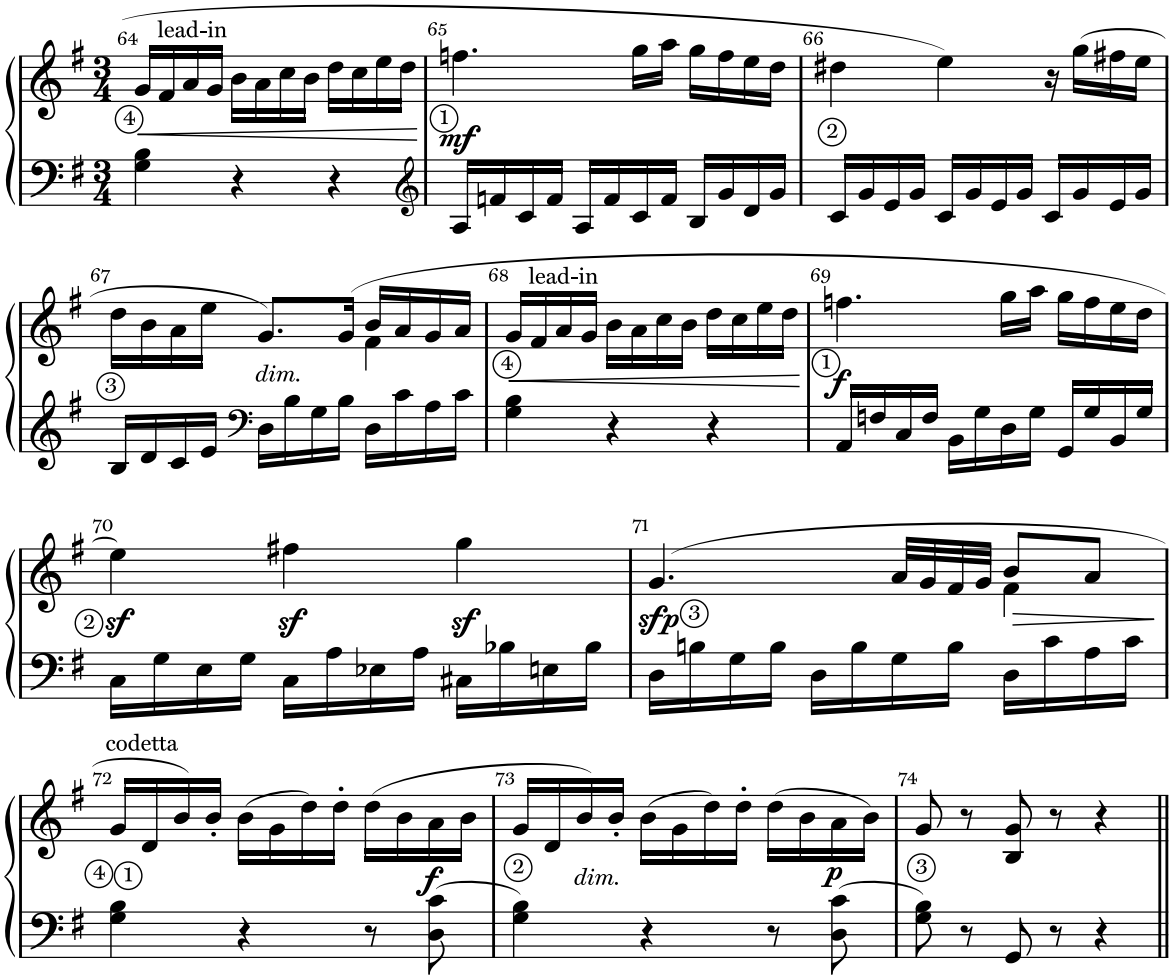
Sometimes a phrase is preceded by introductory material, an external expansion that may or may not cause a disruption to the hypermeter. Example 18.16 begins with the conclusion of one phrase (on a half cadence in C major, mm. 11–12), ending a four-measure hypermetric unit, and continues with the beginning of the next, in G major. While the second phrase proper begins in measure 14, an inserted measure (13) precedes the theme and delays the hypermetric downbeat; for this reason, the inserted measure, known as a **lead-in**, is given no hypermetric number.

EXAMPLE 18.16: Mozart, Piano Sonata in C Major, mvt. 1, mm. 11–17



Example 18.17 shows a case of a lead-in that does not disrupt the hypermeter. On the downbeat of measure 30, the arrival at a half cadence (in F major) is followed by a flourish of sixteenth notes that fills out the measure and leads to the return of the **a** phrase in measure 31.

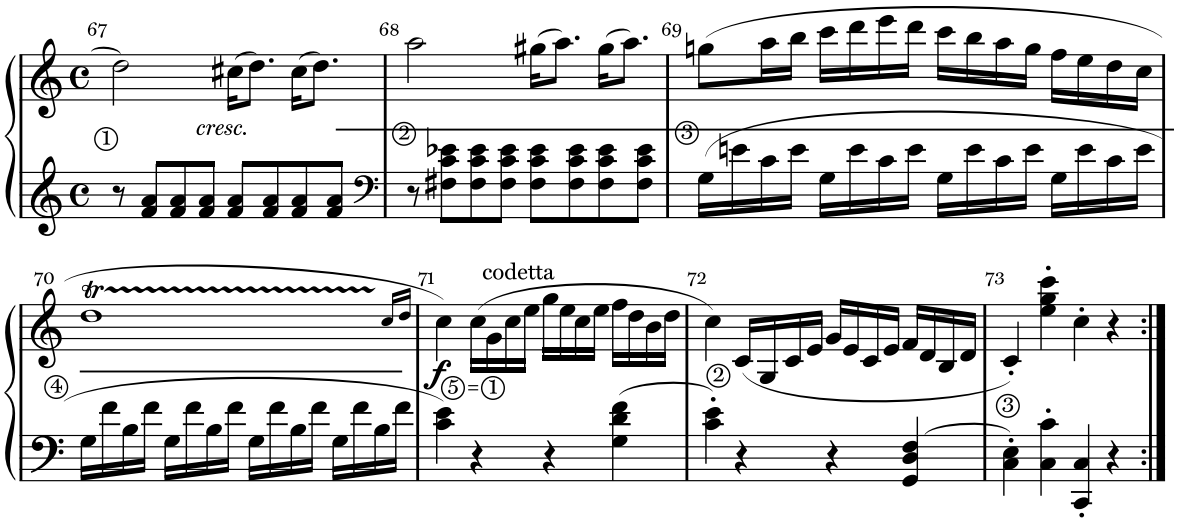
EXAMPLE 18.17: Mozart, Piano Sonata in B♭ Major, mvt.1, mm. 27–34

Expansions at the end of a phrase are known as **cadential extensions**. These sometimes begin with a deceptive resolution of V that leads to an extension, or they may coincide with an elision. In measure 65 of Example 18.18, for instance, Mozart introduces a four-measure phrase that is repeated with alterations in 69–72. Each phrase is introduced by a lead-in (mm. 64 and 68), which does not disrupt the hypermeter. The end of the second phrase, however, is elided with a cadential extension that begins in measure 72 and lasts for three measures. This codetta (a small coda) simply repeats the cadential harmonies V^7–I, echoing the PAC of 71–72, disrupting the four-measure hypermeter, and slowing the momentum to end this movement.

EXAMPLE 18.18: Mozart, Piano Sonata in C Major, mvt. 2, mm. 64–74

KEY CONCEPT A **coda** is a section of music at the end of a movement, generally initiated after a strong cadence in the tonic, that extends the tonic area or the final cadence and brings the work to a close. Codas sometimes consist of energetic cadential flourishes; alternatively, they may dissipate energy and end quietly. A **codetta**, or short coda, lasts only a few measures, or comes at the end of a section rather than the end of a movement.

Listen to the conclusion of the first movement of the same Mozart sonata (Example 18.19), which is similar in construction. In this case, though, the last phrase spills over beyond the four-bar norm, ending in measure 71. This five-measure phrase is an example of phrase expansion, accomplished by drawing out the

dominant area for two measures (mm. 69–70). After the cadence on the downbeat of measure 71, a codetta brings the movement to a rousing close.

EXAMPLE 18.19: Mozart, Piano Sonata in C Major, mvt. 1, mm. 67–73



Did You Know?

Perhaps the most famous motives named for their symbolic associations are the leitmotivs used by Richard Wagner (1813–1883) to represent a character, idea, or object in his operas. For example, in the four-opera cycle *Der Ring des Nibelungen* (*The Ring of the Nibelung*), specific motives represent a gold ring, giants, female warriors called Valkyries, a sword, a magic cloak, fire, fate, and Valhalla (residence of the gods), among others. Wagner himself did not coin this term—it was popularized by a friend of his—but it has become closely associated with his music. While locating statements of each leitmotiv is only

one part of an analysis of these masterworks, learning to identify them by ear can add greatly to your enjoyment of the operas. To learn more about Wagner's musical style, read the essays in the Norton Critical Score *Prelude and Transfiguration from "Tristan and Isolde*," edited by Robert Bailey (New York: Norton, 1985). To learn more about Wagner's life, consult Ernest Newman's *Life of Richard Wagner* (London: Cassell, 1933–47; reprinted 1976).

TERMS YOU SHOULD KNOW

cadential extension
coda
codetta
hypermeter
lead-in
metric reinterpretation
modulating period
motive
- contour motive
- rhythmic motive

motivic transformation
- augmentation
- diminution
- fragmentation

period
- contrasting
- parallel
- symmetrical
- asymmetrical
- double

phrase
- antecedent
- consequent

phrase elision
phrase expansion
phrase group
phrase overlap
phrase rhythm
sentence structure
subphrase

truncation

QUESTIONS FOR REVIEW

1. Name three different ways motives may be transformed.
2. What type of information might be gained from phrase analysis? How might this information impact performance interpretations?
3. How do antecedent and consequent phrases differ?
4. In how many different ways might phrases be paired to form periods? What cadences may be found in a period? How can more than two phrases be grouped together?
5. What is the difference between a parallel and a contrasting period? between a symmetrical and asymmetrical period?
6. Describe how elided phrases may or may not disrupt hypermeter.
7. What is the purpose of a coda? Where is a coda located?
8. In music for your own instrument, find an example of (a) an antecedent-consequent pair, (b) a rhythmic motive, (c) a contrasting period, (d) four-measure hypermeter.

Know It? Show It!

Focus by working through the tutorials.

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19 Diatonic Sequences

Outline

Sequences

Descending sequences

- Descending-fifth sequence
- Pachelbel sequences
- Descending parallel $\frac{6}{3}$ chords

Ascending sequences

- Ascending-fifth sequence
- Ascending parallel $\frac{6}{3}$ chords

Overview

This chapter considers the relationship between harmonic and melodic elements in sequences. We learn how to identify sequence patterns, underlying root progressions, linear-intervallic frameworks, and common bass lines. We also learn how to treat sequences in contextual analysis.

Repertoire

Johann Sebastian Bach

Invention in D Minor
Prelude in C Major, BWV 924

Arcangelo Corelli, Trio Sonata in A Minor, Op. 4, No. 5, Allemanda

George Frideric Handel
Chaconne in G Major
"Rejoice greatly," from *Messiah*

Fanny Mendelssohn Hensel, "Neue Liebe, neues Leben" ("New Love, New Life")

Jerome Kern and Oscar Hammerstein II, "All the Things You Are," from *Very Warm for May*

Dennis Lambert and Brian Potter, "One Tin Soldier," from *Billy Jack*

Wolfgang Amadeus Mozart, Dies irae, from *Requiem*

Johann Pachelbel, Canon in D

Robert Schumann, "Ich grolle nicht" ("I Bear No Grudge"), from *Dichterliebe* (*The Poet's Love*)

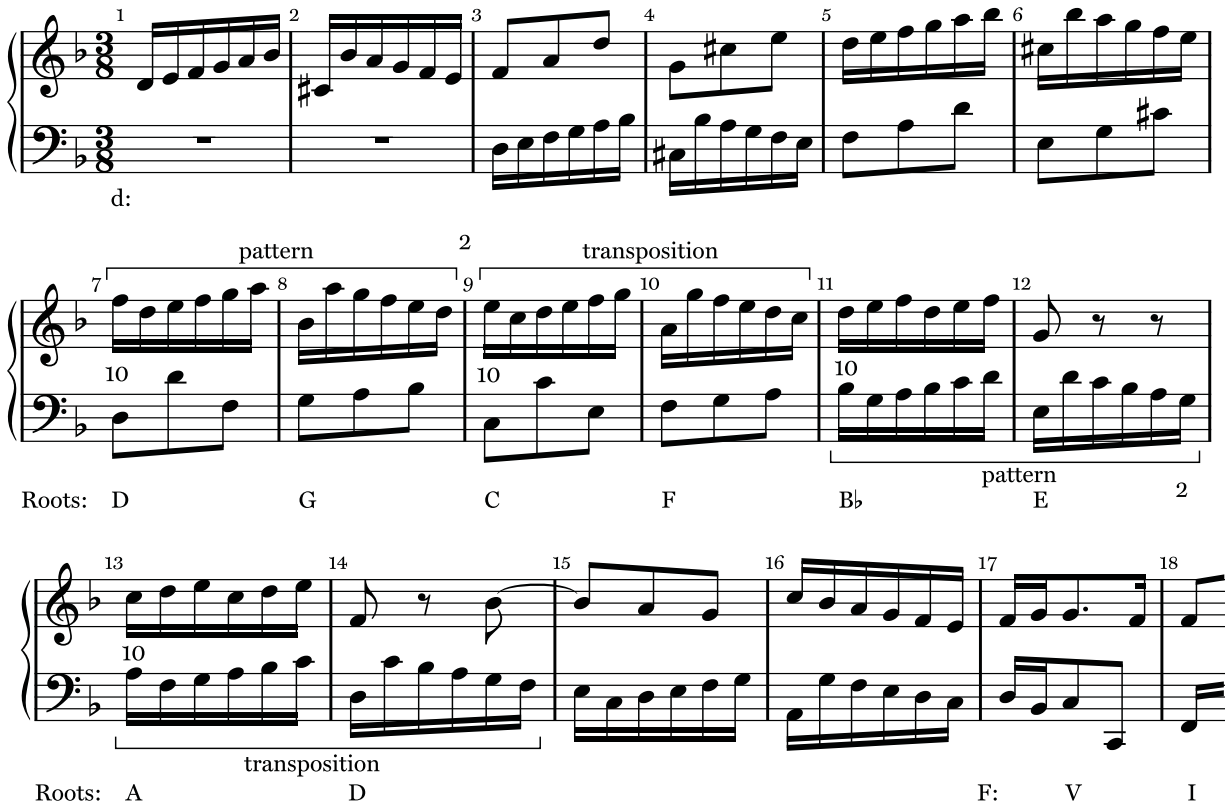
Sequences

The phrases we focused on in Chapter 18—composed with regular and predictable groups of measures (such as 4 + 4, or 2 + 2 + 4) and basic phrase progressions (T–PD–D–T)—create a sense of stability and balance. Yet musical artworks mix moments of stability with instability, and moments of relative stasis with directed progression. Sequences contribute to this mixture of effects by thwarting the expectation of balanced phrases and creating new expectations of their own, through repetition.

KEY CONCEPT A **sequence** is made when a musical idea is expressed, then restated immediately one or more times, with each restatement transposed down or up from the previous one by a consistent interval. The basic musical idea—normally a half or full measure or two measures—is the sequence **pattern**; the interval by which it is transposed is called the **level of transposition**. To label a sequence on a score, mark the pattern and each subsequent transposition with a bracket, and identify the interval of transposition.

For an example, listen to the opening of Bach's Invention in D Minor (Example 19.1). Listen for the moment when a pattern is stated and then immediately repeated, transposed (by an interval other than an octave).

EXAMPLE 19.1: Bach, Invention in D Minor, mm. 1–18



The two-measure pattern in measures 7–8 is transposed down a step in 9–10. It then moves to the left hand in 11–12 to initiate a new sequence, which is transposed down a step in 13–14. This sequence pattern includes both melodic and harmonic elements.

- **Melodic sequence**: The right-hand melodic pattern begins on F5 (m. 7), then is transposed to begin on E5 (m. 9); the left-hand pattern begins on B♭3 (m. 11), then moves to A3 (m. 13).
- **Harmonic sequence**: The roots of the harmonic progression move from D–G (mm. 7–8) down a step to C–F (9–10), while the second root progression is B♭–E (11–12) to A–D (13–14). In this example, the roots of the chords are also the foundation of the bass line. Both bass lines—D3–G3–C3–F3 followed by B♭3–E3–A3–D3—emphasize the descending-fifth progression.

Observe the contrapuntal pattern between voices: the

sequences are structured around a series of outer-voice tenths on the downbeats of measures 7, 9, 11, and 13. Such a contrapuntal framework is called a **linear intervallic pattern** (abbreviated **LIP**). While melodic sequences or LIPs may appear on their own, they most often appear in combination: melodic sequence, LIP, bass line, and root progression together, as is the case here.

Now consider the role of these sequences in the opening of this piece. After the presentation of the main subject (motivic idea) three times in measures 1–6, establishing D minor, the sequences create forward momentum toward a new key: a firm PAC in F major in 17–18.

KEY CONCEPT Sequences typically play one of these roles:

- they prolong the tonic area of the phrase; or
- they provide a smooth transition from one key area to another.

In **diatonic sequences**, the interval sizes stay the same when the pattern moves to another pitch level, but the interval qualities may change (for example, major to minor, or perfect to diminished). In Example 19.1, for instance, the initial minor third in the right hand of measure 7 (F5–D5) becomes a major third in measure 9 (E5–C5). In **chromatic sequences**, accidentals are introduced, which may change the quality of the intervals in the pattern and may signal motion to another key; we will learn more about these in Chapter 30.

SUMMARY

A sequence pattern may consist of one of the following:

- a melody only (melodic sequence);
- a soprano-bass contrapuntal framework (LIP)–

possibly with inner voices—whose embellishment may or may not be identical in each repetition; or

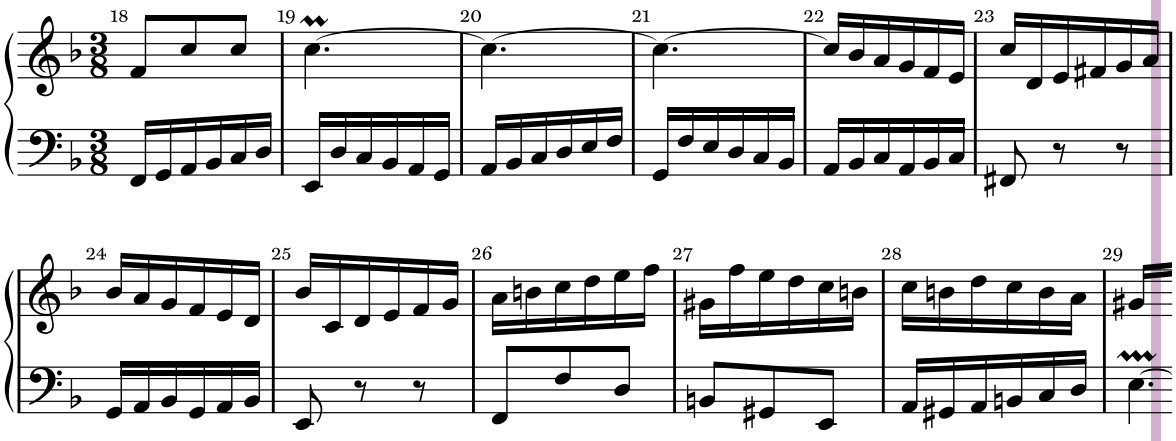
- a complete texture—melodic sequence, LIP, bass line, root progression—where the pattern is transposed exactly.

Try it #1

Listen to another passage from the Bach invention, and identify two different melodic sequences.

- Draw a bracket over the pattern each time you hear it (even if transposed or varied).
- Compare each pattern with its transposition, label the level of transposition (the interval), and describe any other changes. In what ways does the second sequence differ from the first?

Bach, Invention in D Minor, mm. 18–29

Show answers

We will consider sequence types in two groups, descending

and ascending. Keep in mind, though, that they could be classified by other shared characteristics—such as sequences whose patterns transpose by step, or sequences that display a particular type of bass line. We will point out these correspondences in the descriptions that follow.

KEY CONCEPT When analyzing sequences:

- identify the sequence pattern (a melodic idea, harmonic progression, LIP, or combination of these) and its level of transposition;
- determine the root progression;
- examine the bass-line motion.

Descending Sequences

The three main types of descending sequences have chord progressions derived from the basic root motions we learned in Chapter 15: the descending-fifth sequence is based on the circle of fifths; the Pachelbel sequence is based on descending thirds; and the parallel 6/3 sequence is based on descending steps.

Descending-Fifth Sequence

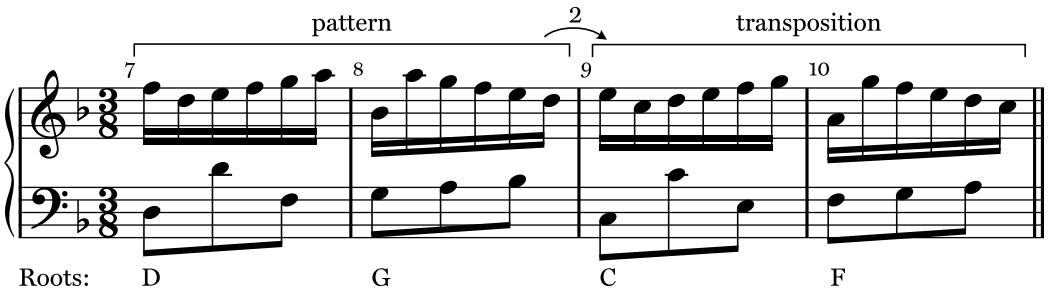
The descending-fifth root progression—where adjacent chords outline segments of the circle of fifths—is by far the most common sequence type; it is well suited to repetitive patterns both in the outer-voice framework and in the entire musical texture. In this type of sequence,

- two fifth-related harmonies make up each pattern, and
- the patterns descend by second.

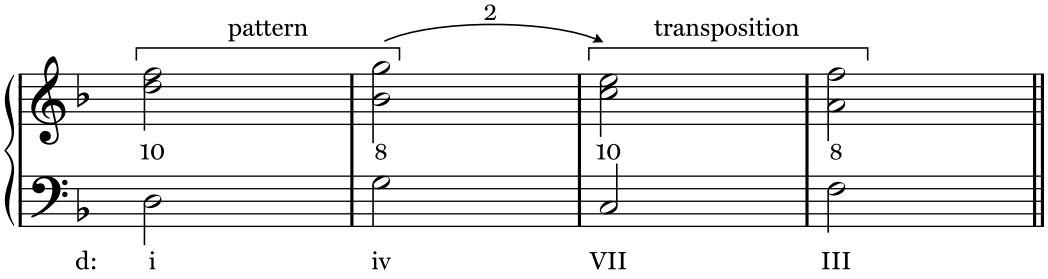
Example 19.2a reproduces the descending-fifth sequence from Example 19.1. Part (b) provides a chordal reduction: the chord tones from the beginning of each measure minus all embellishing tones. The bass line here consists of the lowest-sounding chord tone of each measure; each two-measure pattern (D–G, C–F) is transposed by a descending second. This example illustrates one of the typical descending-fifth LIPs: 10–8, marked in part (b). Others are shown in Example 19.3.

EXAMPLE 19.2: Bach, Invention in D Minor

(a) Mm. 7–10: melodic pattern descends by second



(b) Reduction of mm. 7–10: root progression descends by fifth; two-chord pattern descends by second



Throughout music of the common-practice era, you will find descending-fifth sequences—the strongest progression in tonal music—in several forms:

- with all root-position triads,
- with alternating root-position and first-inversion triads or sevenths, or
- with all seventh chords (possibly with inversions).

In the root progressions we considered previously, normally no more than three or four chords of the progression would appear successively in the phrase. There were also "weak links," chord connections that tended not to be included, centered around the diminished triad (vii◦) and triads whose function is ambiguous (iii). When root-progression chains are found in a sequence, however, these weak harmonic links are supported by the repetition of the pattern and by strong voice-leading, making it possible to travel through the entire chain or at least

through long sections of it.

KEY CONCEPT Descending-fifth sequences share the following characteristics:

- The harmonies follow a descending circle-of-fifths root progression or a contiguous segment of it, where each two-chord pair descends by second.
- In major keys, the upper-voice melodic pattern typically aligns with the chords as I–IV, vii°–iii, vi–ii, V–I; or I, IV–vii°, iii–vi, ii–V, I. Both possibilities are bracketed in Example 19.3a.
- The progression is the same in minor keys (i–iv–VII–III–VI–ii°–V–i), with the leading tone usually raised only in the V chord.
- The chords in each pair may appear in different inversions (e.g., $\frac{6}{3}$, $\frac{6}{5}$), making possible a variety of bass lines without changing the root progression.
- Because the transpositions follow the voice-leading of the original two-chord pattern, a root-position vii° chord may appear in major keys with its root doubled (even though it is the leading tone), as can the root-position ii° in minor.
- The outer voices of the chord pairs form a repeated intervallic pattern.

Memorize the Roman numerals in the chain (I–IV–vii°–iii–vi–ii–V–I) and some of the LIPs associated with them, as you will encounter them often. When in root position, the bass line of this sequence will zigzag up and down in order to stay within a reasonable range; this motion contributes to its distinctive sound and highlights the descending-fifth harmonies, while the stepwise melodic pattern contributes smoothness to the descent.

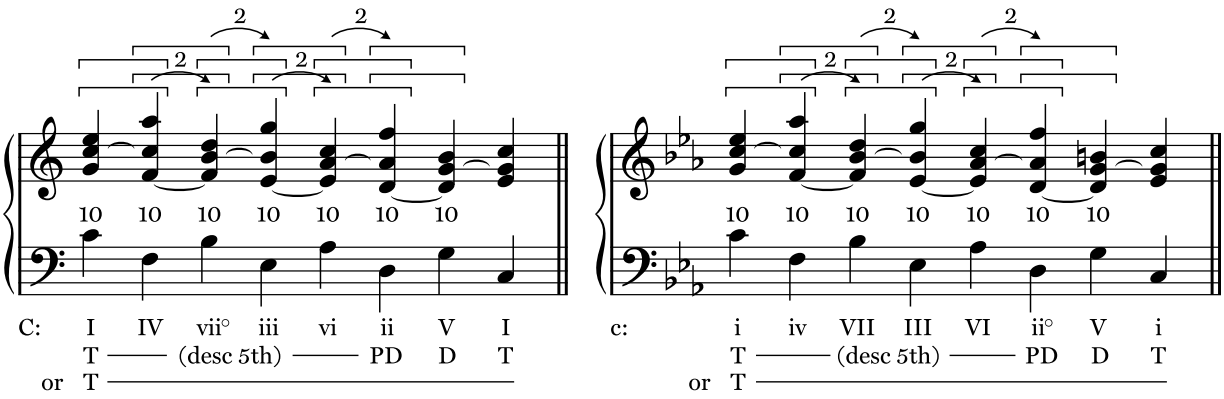
Example 19.3 shows voice-leading frameworks for basic

descending-fifth sequences, both root position and with alternating $\frac{6}{3}$ chords. In each framework, any of the upper-voice strands could be the soprano line in an SATB setting; your choice will determine which LIP is created by the soprano and bass. The brackets above the staff indicate the repeated two-chord pattern, which in each case descends by step; and the ties highlight common tones between the chords. Although the examples give the entire course of a sequence, only a portion may appear in a piece—as few as two or three chords.

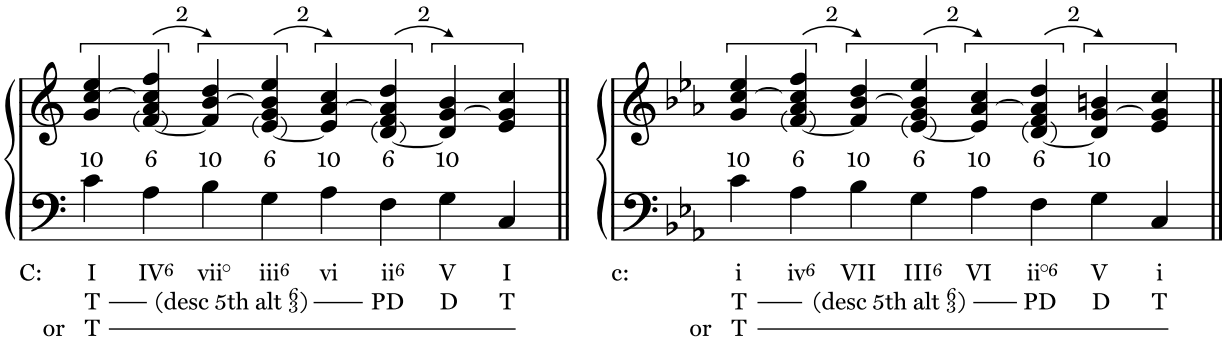
In the contextual analysis, the ii–V–I at the end plays a dual role: as part of the sequential pattern, but also as the end of a phrase (PD–D–T). If the entire descending-fifth "circle" is employed, starting with the tonic and returning there, the sequence expands the tonic area.

EXAMPLE 19.3: Descending-fifth frameworks

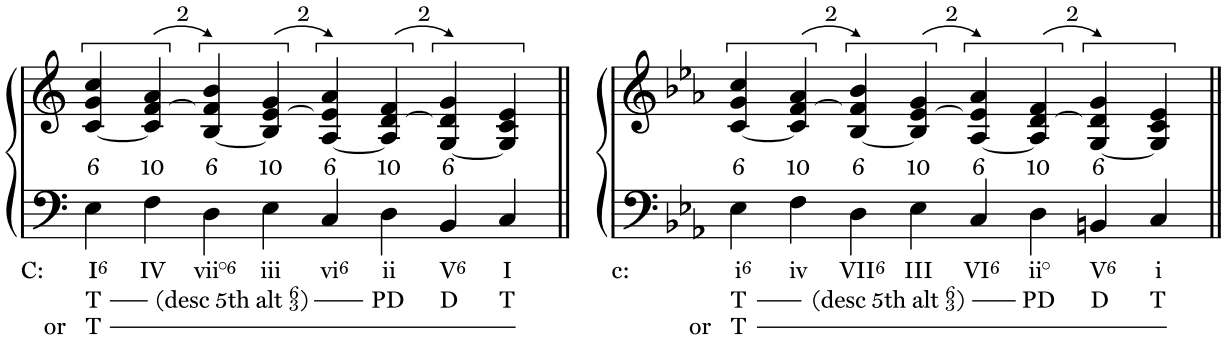
(a) All root position (10–10 LIP)



(b) Alternating root position and first inversion (10–6 LIP)


2 2 2
10 6 10 6 10 6 10
C: I IV6 vii° iii6 vi ii6 V I
T — (desc 5th alt 6/3) — PD D T
or T
2 2 2
10 6 10 6 10 6 10
c: i iv6 VII III6 VI ii°6 V i
T — (desc 5th alt 6/3) — PD D T
or T

(c) Alternating first inversion and root position (6–10 LIP)


2 2 2
6 10 6 10 6 10 6
C: I6 IV vii°6 iii vi6 ii V6 I
T — (desc 5th alt 6/3) — PD D T
or T
2 2 2
6 10 6 10 6 10 6
c: i6 iv VII6 III VI6 ii° V6 i
T — (desc 5th alt 6/3) — PD D T
or T

Bass lines Example 19.3 also illustrates typical bass lines for descending-fifth sequences.

- In root position, bass lines alternate between a descending fifth and an ascending fourth (part a).
- When alternate chords are in $\frac{6}{3}$ position, the bass line consists of a descending third followed by an ascending second (part b), or vice versa (part c).

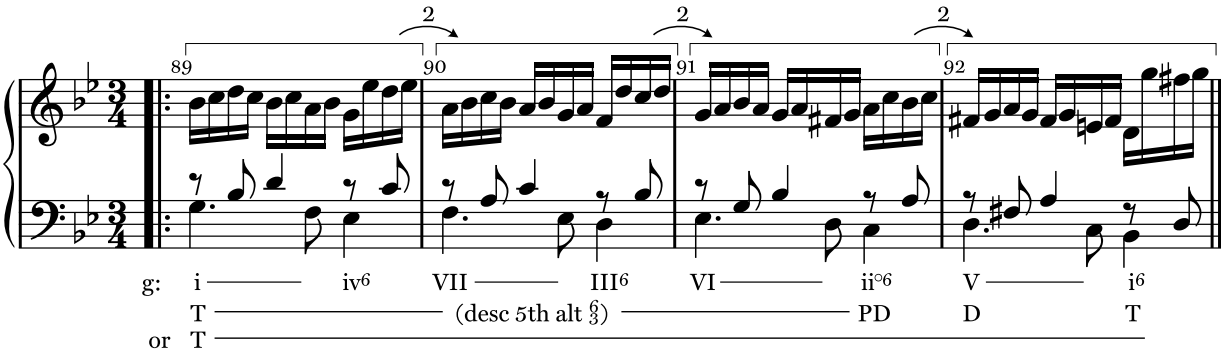
One characteristic LIP is shown in each example, but any of the upper parts could be moved to become the highest voice (while retaining the bass line), making other LIPs possible as well.

For a minor-key example of this sequence, listen to Variation 11 from Handel's Chaconne in G Major, the beginning of which is given in Example 19.4a. As usual, there is a two-chord pattern transposed down by second, in this case alternating root

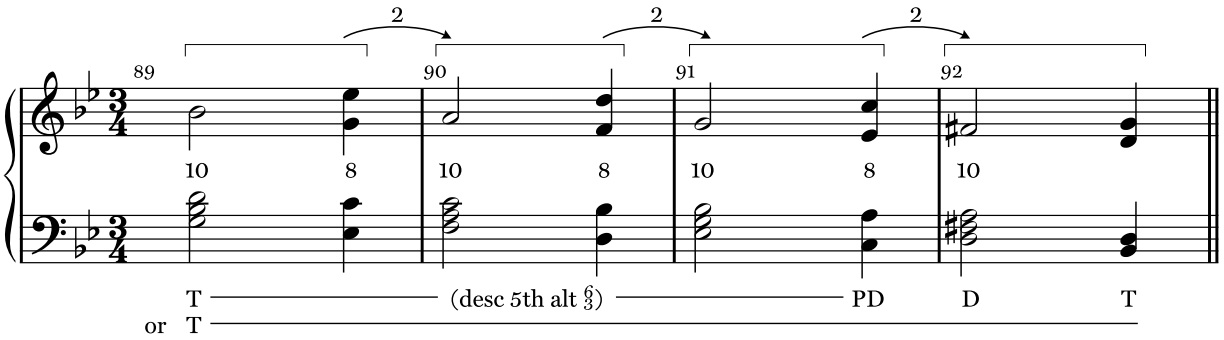
position with $\frac{6}{3}$ chords. As the SATB framework in part (b) shows, the harmony changes on the first and third beats of a measure, and the two-chord sequence pattern moves down one step with each restatement.

EXAMPLE 19.4: Handel, Chaconne in G Major, Variation 11

(a) Mm. 89–92



(b) Framework for mm. 89–92



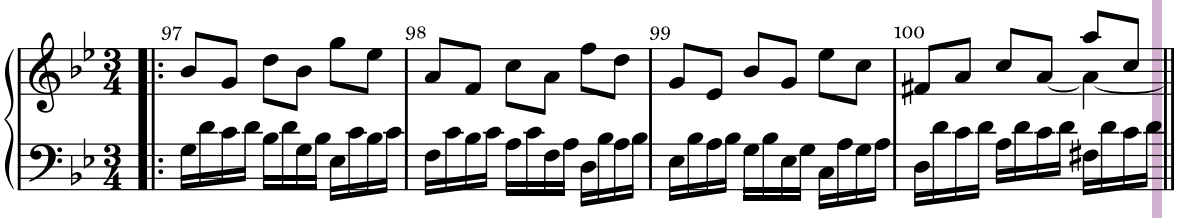
Try it #2

Compare the beginning of Handel's Variation 12 with Variation 11 (Example 19.4). Answer the questions that follow

by circling the appropriate words.

Handel, Chaconne in G Major, Variation 12, mm. 97–100

Show answers



(1) The two passages use (a) the same root progression (b) a different root progression.

(2) The LIP type is (a) 10–10 (b) 10–6 (c) 6–10.

KEY CONCEPT When you write descending-fifth sequences with triads:

- Follow the same part-writing guidelines as for any two chords with roots related by fifth. Plan your voice-leading carefully, since the two-chord pattern will be transposed to form the sequence.
- In most cases, the two-chord pattern will include a common tone. Keep the common tone in the same voice, and move the other voices to the closest chord member.
- Retain the same voice-leading for the two-chord pattern each time it is transposed.
- If the sequence alternates first-inversion triads, the two-chord pattern may or may not have these common-tone connections, depending on what is doubled.
- If the pattern uses root-position triads, the sequence may contain root-position vii◦ (and ii◦ in minor); the doubling will be the same throughout, even if that means doubling the leading

tone.

- Keep the sequence pattern and LIP consistent as you move through the progression, so its sequential nature is clear to listeners.

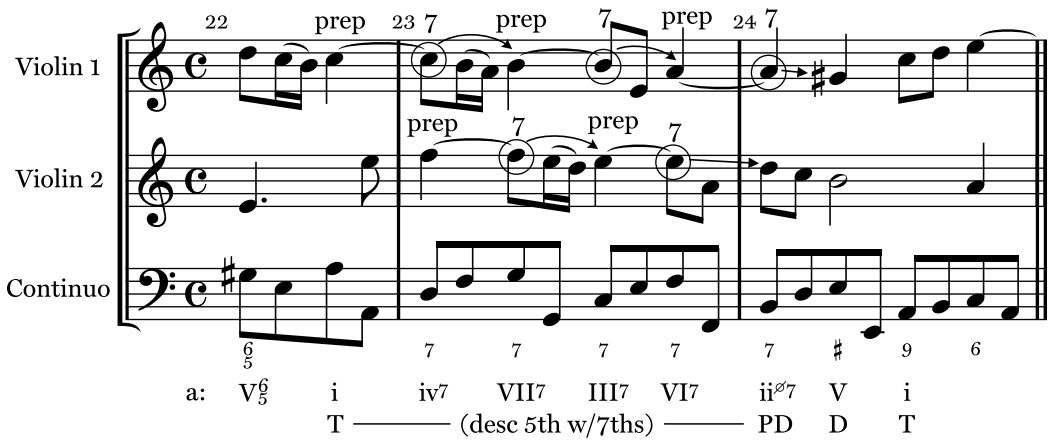
Sequences with Seventh Chords Descending-fifth sequences may include

- all seventh chords,
- alternating triads and seventh chords, or
- alternating different inversions of seventh chords.

As with all seventh chords, pay attention to how the chordal dissonance (the seventh) is prepared and resolved.

Listen to the sequence shown in Example 19.5. This passage presents a sequence with all seventh chords, as the figured bass clearly shows. (Consider the bass pitches on each beat to be the primary bass line.) The chordal sevenths are prepared by common tone and resolved down by step as a string of 7–6 suspensions in each two-chord pattern, alternating between first and second violin: for example, the seventh on beat 1 of measure 23, C5, is prepared by a consonant tenth in measure 22 and resolves down by step to B4 on beat 2. These preparations and resolutions of the sevenths are built in to the framework, demonstrating the close link between sequences and the resolution of dissonant intervals in counterpoint.

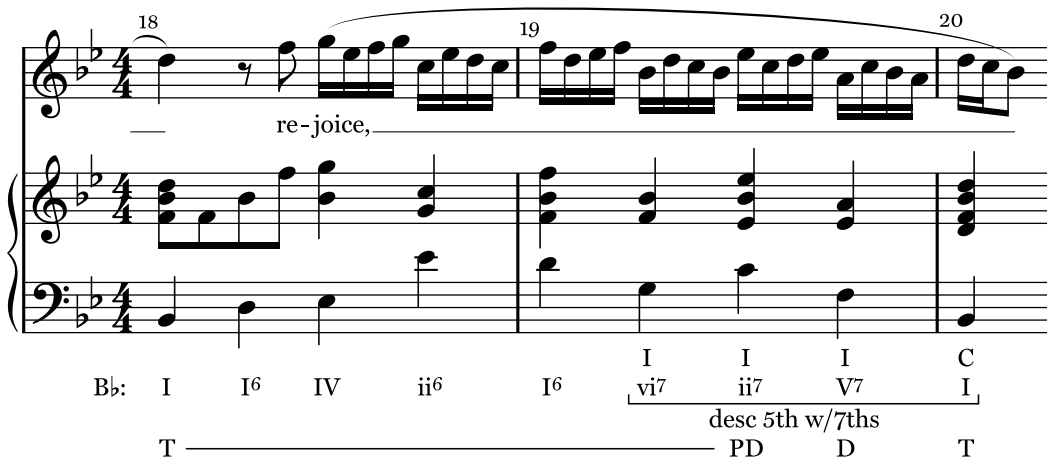
EXAMPLE 19.5: Corelli, Allemanda, from Trio Sonata in A Minor, mm. 22–24



When you write descending-fifth sequences with seventh chords in root position, unacceptable parallels can easily arise unless you vary the doubling of adjacent chords. Look at Example 19.6 to see how this problem can be avoided: in measure 19, the fifth has been omitted from the keyboard accompaniment on beats 2, 3, and 4. A more common solution is to leave out the fifth in alternate chords.

KEY CONCEPT When you write consecutive root-position seventh chords, alternate complete and incomplete chords in the two-chord pattern, omitting the fifth on every other chord.

EXAMPLE 19.6: Handel, "Rejoice greatly," mm. 18–20 (I = incomplete, C = complete)



Some basic frameworks for descending-fifth sequences with seventh chords are illustrated in Example 19.7a–d; note their treatment of the chordal seventh.

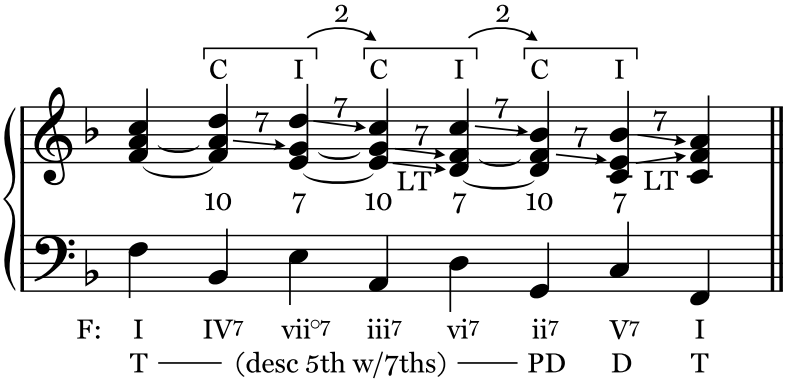
KEY CONCEPT When you write a descending-fifth sequence in common-practice style:

- Prepare sevenths in each chord by common tone, and resolve down by step.
- In the middle of a sequence, the leading tones need not resolve up, but may be pulled down by a descending voice-leading line.
- In a sequence with all root-position seventh chords, parallel fifths and octaves can easily result. To avoid them, alternate complete (C) and incomplete (I) seventh chords (omit the fifth; Example 19.7a).
- In a sequence with alternating triads and seventh chords (parts b–d), every chord should be complete, with standard doubling.
- Seventh-chord sequences may alternate between two inversions. Inverted seventh chords should be complete in four-part settings (part d).

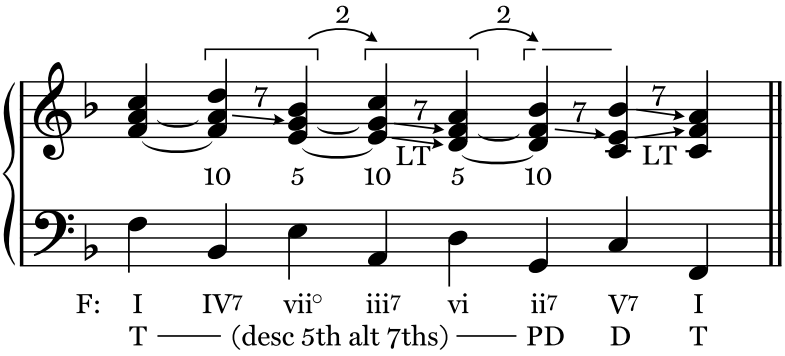
EXAMPLE 19.7: Frameworks for descending-fifth sequences

featuring seventh chords

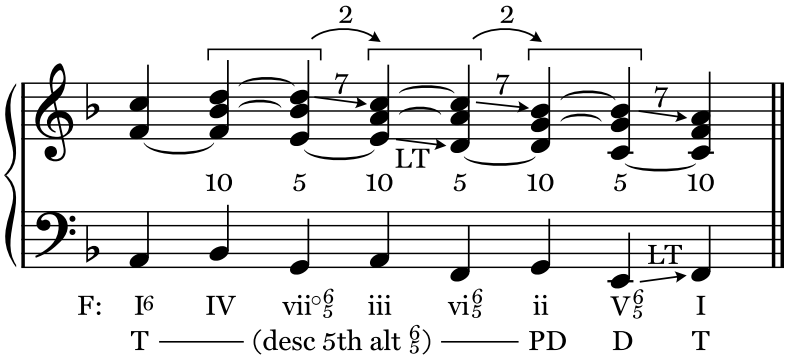
(a) All root-position chords, alternating complete (C) and incomplete (I) (10–7 LIP)



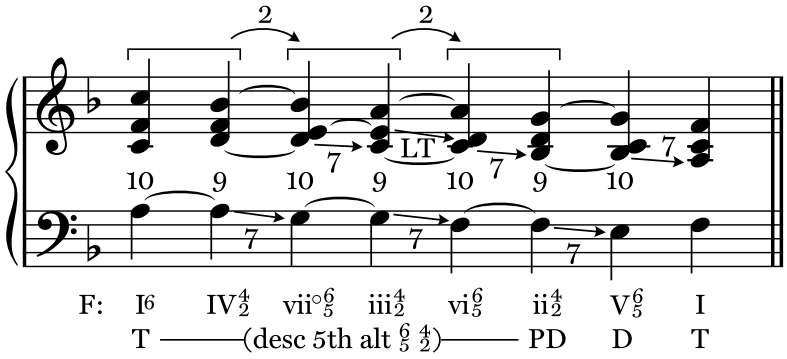
(b) Alternating triads and root-position seventh chords, all complete (10–5 LIP)



(c) Alternating triads and first-inversion seventh chords, all complete (10–5 LIP)



(d) Alternating first- and third-inversion seventh chords, all complete (10–9 LIP)



Some of the seventh chords shown in Example 19.7–for example, iii7, IV7, vi6/3, and iii4/2–are rarely found outside of sequences.

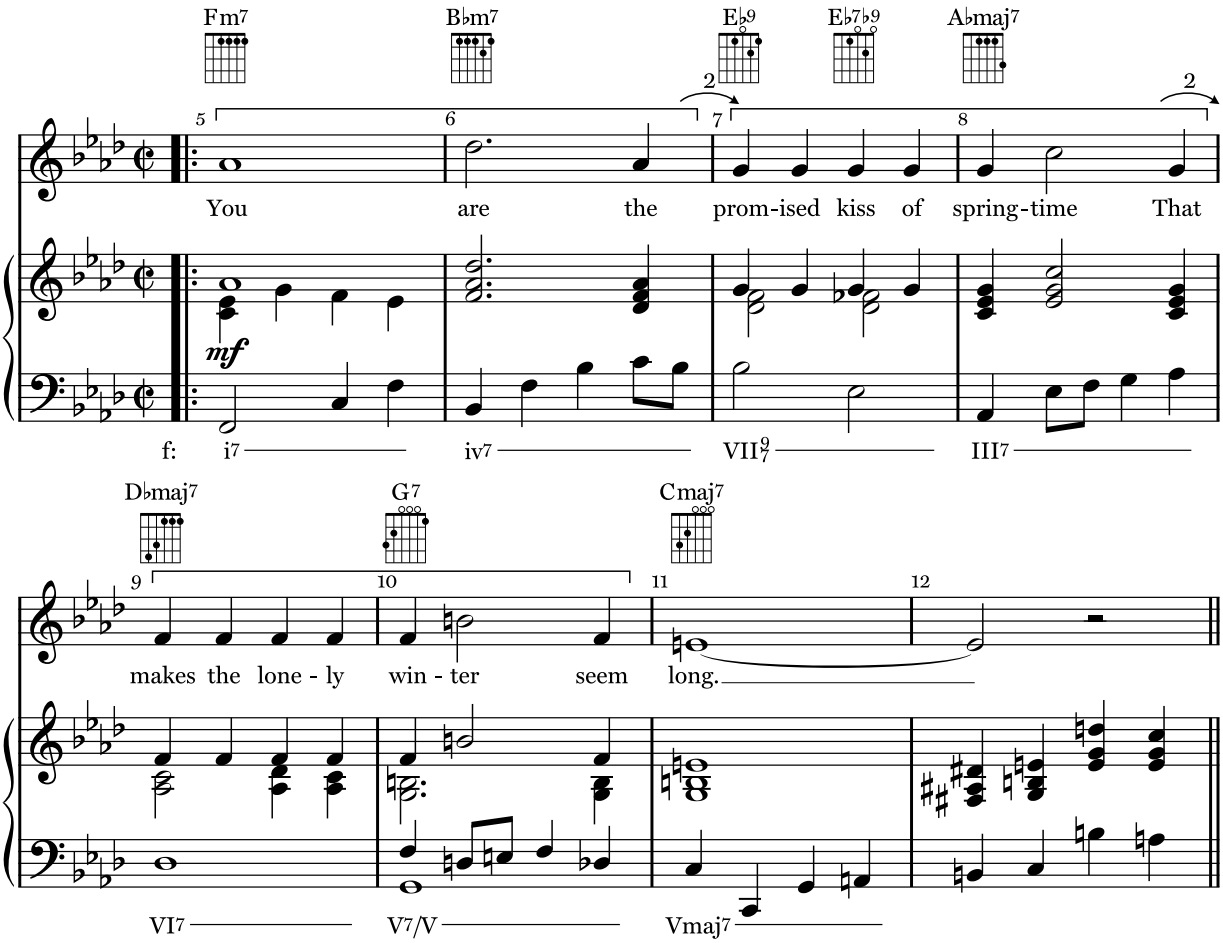
Of the characteristic bass lines in descending-fifth sequences with seventh chords, we have already seen two:

- descending fifth, ascending fourth (Example 19.7a and b) and
- alternating thirds and steps (part c).
- A third possibility is a descending stepwise bass (part d).

Use Example 19.7 as a model to write your own variations of the descending-fifth seventh-chord sequence, and look for others in pieces you are performing.

In Popular Music Listen to the first phrase of Kern and Hammerstein's "All the Things You Are" (Example 19.8). This

song features chords with a third added above the seventh (**ninth chords**) and harmonies with chromatic alterations. The chord before measure 5 (not shown) is a V7 in F minor, setting up the F minor chord as i. This chord progression should be familiar for the most part: Kern has written seventh and ninth chords to elaborate the root progression i7–iv7–VII$^{9}_{7}$–III7–VI7–V7/V (a chromatically altered ii7)–V7. The two-chord sequence pattern is reflected in the melody (A♭4–D♭5, G4–C5, F4–B♮4, E♮4).

EXAMPLE 19.8: Kern and Hammerstein, "All the Things You Are," mm. 5–12 (descending-fifth sequence with seventh chords)

Try it #3

Try it #3

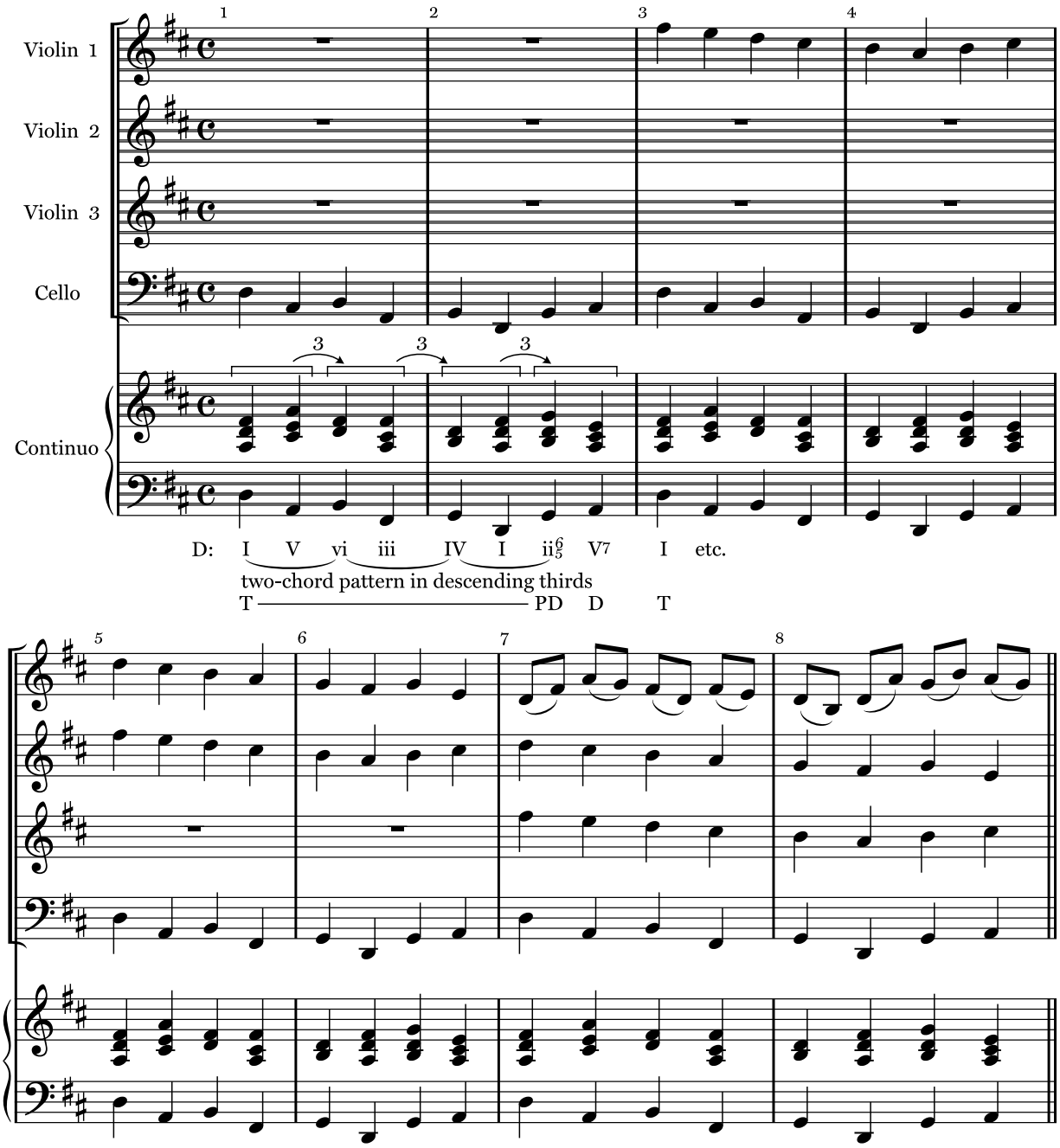
In Example 19.8, there are some differences from the expected diatonic sequence. Circle on the example the chord symbols for the nondiatonic chords. Which diatonic chord does each replace?

Show answers

Pachelbel Sequences

Listen now to one of the most famous descending sequences of all—Johann Pachelbel's Canon in D (Example 19.9). Chord-to-chord analysis of the continuo part in measures 1–2 reveals a root-progression pattern of down a fourth, then up a second, until just before the cadence: I–V–vi–iii–IV–I–ii$^{6}_{5}$–V^{7}–I. The two-chord pattern as marked reveals underlying descending thirds: I–vi–IV–ii.

EXAMPLE 19.9: Pachelbel, Canon in D, mm. 1–8



Although the bass line stays the same throughout the piece, as does the harmonic progression (with slight changes in voicing), the upper parts explore the many possible melodic lines that can be generated from these chords, beginning with scalar patterns and becoming increasingly elaborate. As in the example, violin 1 introduces each new strand, which is answered in canon after two measures by violin 2, then two

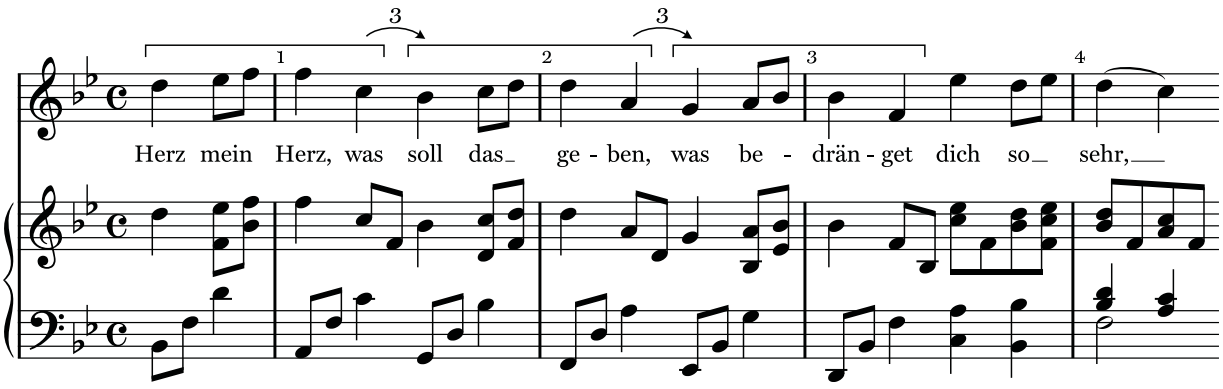
measures later by violin 3.

In music literature, you sometimes find sequences with this same harmonic progression but a stepwise descending bass line. This variation of the Pachelbel sequence alternates root-position chords with first-inversion chords—usually I–V^6–vi–iii^6–IV–I^6–ii, where ii serves as a predominant to prepare the cadence. Here, the underlying descending thirds progression (I–vi–IV–ii) is somewhat concealed; and when V^6 moves to vi, the leading-tone is pulled down by the voice-leading of the sequence and does not resolve according to its normal tendency.

For an example, listen to the opening of Hensel's "Neue Liebe, neues Leben" (Example 19.10a). The entire texture—melody, bass line, and accompaniment upper voices—follows a sequential pattern, transposed down a third each measure. It breaks off after the third statement of the pattern, just before the half cadence in measures 3–4. Like many sequences, as is clear from part (b), this one expands the tonic before the half cadence.

EXAMPLE 19.10: Hensel, "Neue Liebe, neues Leben"

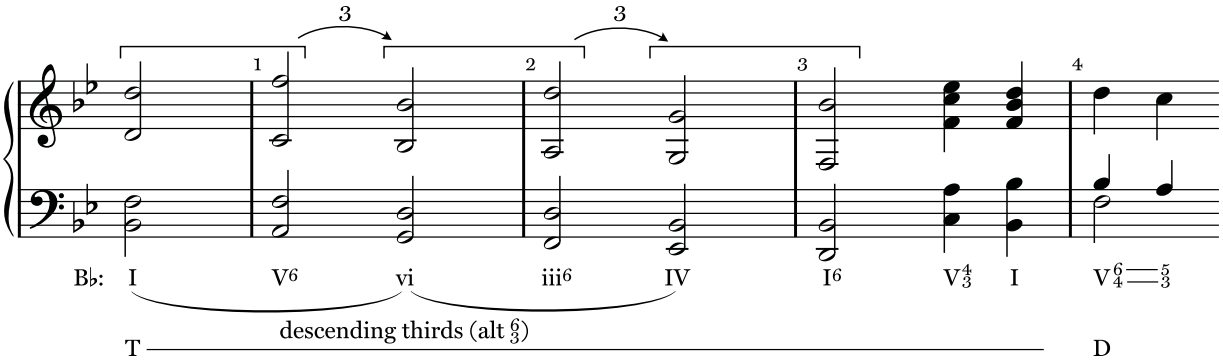
(a) Mm. 1–4



Translation: Heart, my heart, what does this mean, what

troubles you so much?

(b) Framework: Pachelbel sequence with stepwise bass

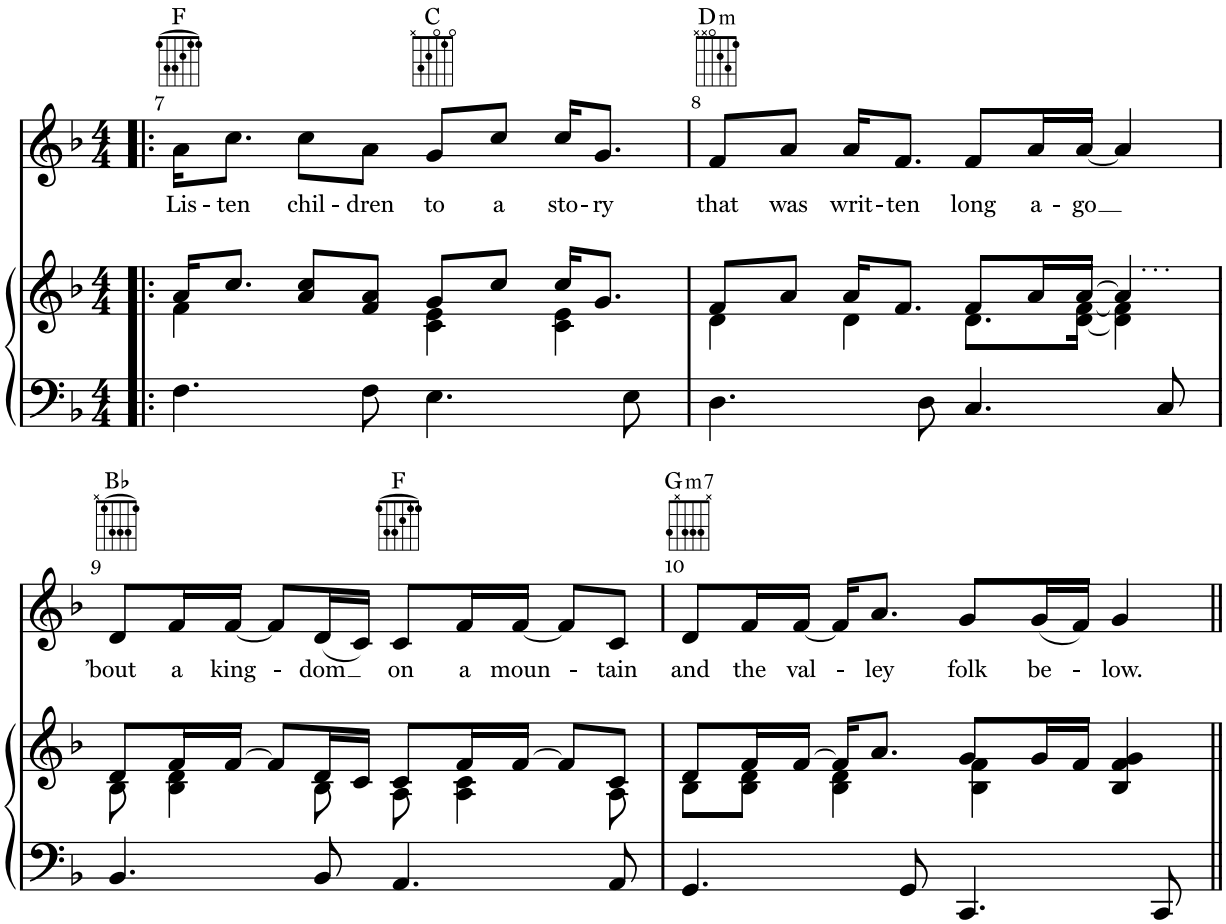


SUMMARY

Characteristic bass lines in Pachelbel sequences may be one of these types:

- descending fourth, ascending step (root-position sequences)
- descending stepwise (alternating root position and first inversion)

Example 19.11 shows another stepwise descending bass line, by the 1970s band Coven. The downbeats of each bar make the descending-third progression clear: F–Dm–B♭–Gm7. You can hear this sequence in many popular songs, performed by artists such as Aerosmith, Green Day, and Avril Lavigne.

EXAMPLE 19.11: Lambert and Potter, "One Tin Soldier," mm. 7–10

F
C
Dm
7
8
Lis - ten chil - dren to a sto - ry that was writ - ten long a - go
B♭
F
Gm7
9
10
'bout a king - dom on a moun - tain and the val - ley folk be - low.

SUMMARY

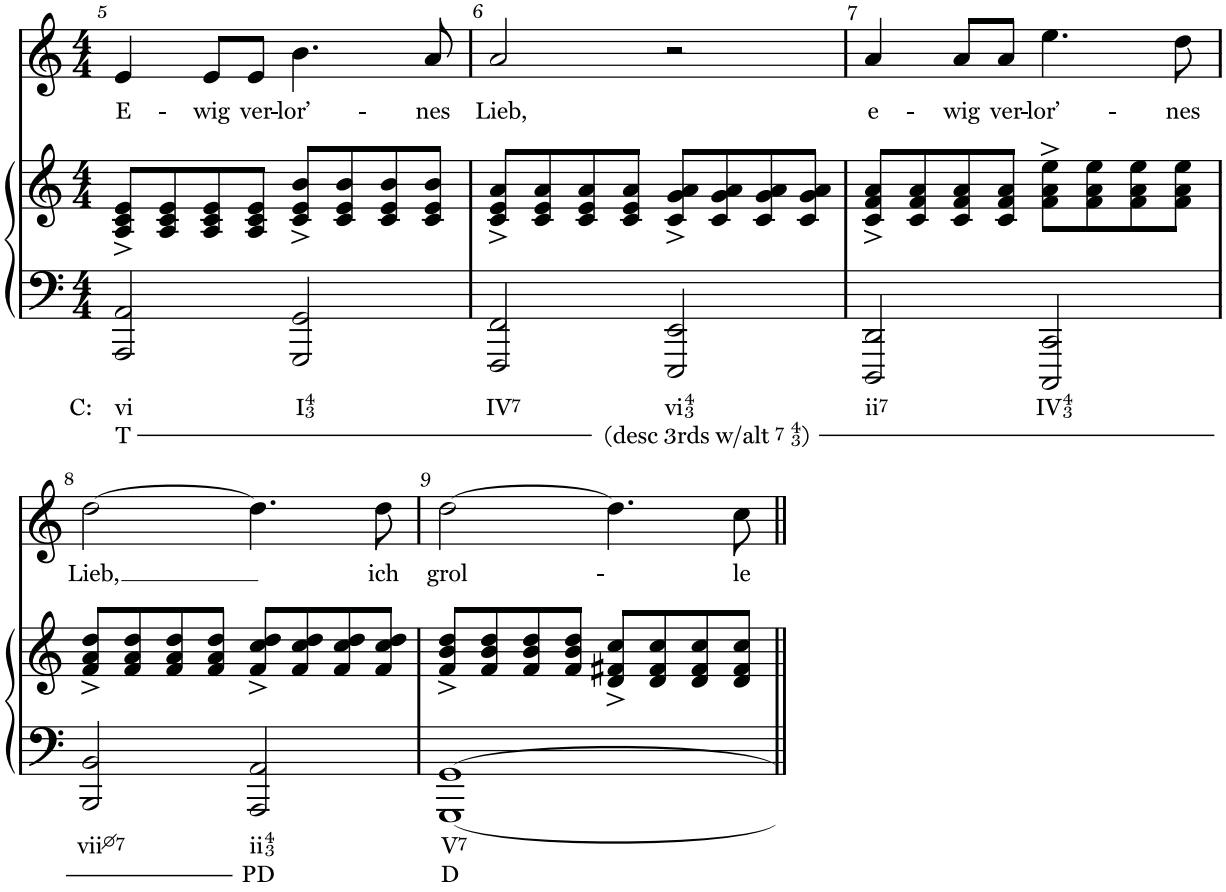
In Pachelbel sequences, the two-chord pattern

- descends by third, so that alternate chords span I–vi–IV–ii;
- has roots that move down a fourth, then up a second: I–V–vi–iii–IV–I–ii;
- may include sevenths on some or all of the chords;
- may include alternating first-inversion chords that result in a stepwise descending bass line.

The two-chord root progression in Example 19.12 descends by third (beginning in m. 5, beat 2: C–F, A–D, F–B) with a

stepwise bass line, like the Pachelbel sequence, but it differs in interesting ways. Most striking is the fact that it is comprised of all seventh chords, alternating root position and second inversion. Further, the two-measure melodic pattern in the voice is repeated up a fourth, highlighting the poignant text ("Love lost forever!") in the highest vocal register of the song thus far.

EXAMPLE 19.12: Schumann, "Ich grolle nicht," mm. 5–9

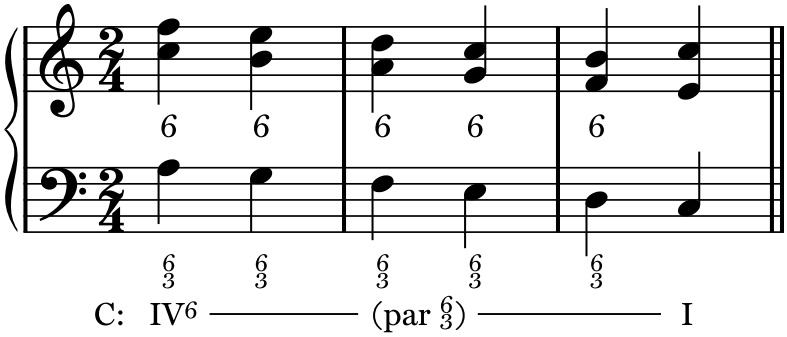


Translation: Eternally lost love, I bear no [grudge].

Descending Parallel $^6_3$ Chords

As we have seen, a chain of root progressions by second can easily result in parallel fifths and octaves. While this voice-leading problem is more of a concern in common-practice than popular styles, most root progressions a second apart feature some sort of intervallic pattern to avoid the fifths and octaves–such as a parallel series of $\frac{6}{3}$ chords descending by step, as in Example 19.13. The LIP for this kind of sequence is usually identified 6–6, though the middle voice (a three-voice texture is typical) makes 10–10 (or 3–3) with the bass; both contrapuntal gestures were examined in Chapter 9. This sequence differs from the two previous in that the pattern consists of only one chord instead of two.

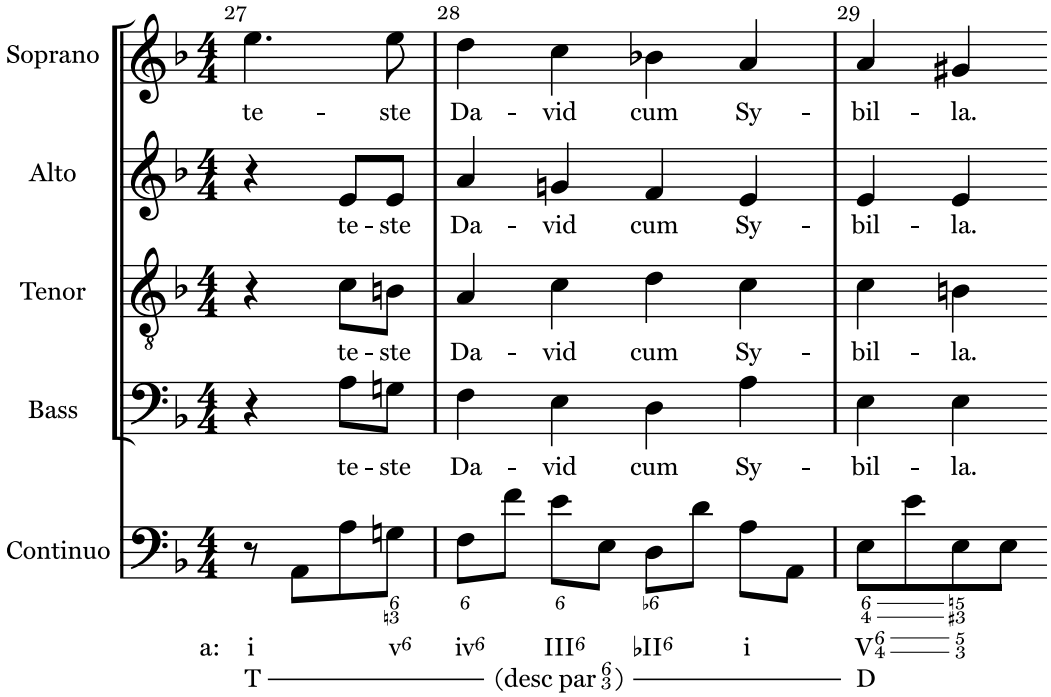
EXAMPLE 19.13: Descending parallel $\frac{6}{3}$ chord sequence



In music literature, parallel $\frac{6}{3}$ chords work more like sequences than like harmonic progressions: they function as a linear succession, spanning harmonic pillars, without a strong sense of root motion. Indeed, a succession of first-inversion triads is more closely related to doubling a melody in thirds and sixths than it is to independent voice-leading. (This compositional strategy was so common in the Renaissance era that it had a name: *fauxbourdon*.) If you analyze with Roman numerals, they will not conform to the familiar phrase or root-progression models; label them as shown above, or analyze with Roman numerals and "(par $\frac{6}{3}$)" below (as in Example 19.14).

Listen to the passage from Mozart's *Requiem* given in Example 19.14. Beginning with the last beat of measure 27, Mozart employs a succession of $\frac{6}{3}$ chords: v⁶–iv⁶–III⁶–♭II⁶ (first-inversion triads Em–Dm–C–B♭), preceding the half cadence in measure 29. (This altered form of the ii chord will be discussed in Chapter 27.) The progression clearly does not "make sense" according to the principles of harmonic progression presented so far; however, the linear pattern of parallel chords makes it perfectly acceptable, even typical, in common-practice style.

EXAMPLE 19.14: Mozart, Dies irae, from *Requiem*, mm. 27–29

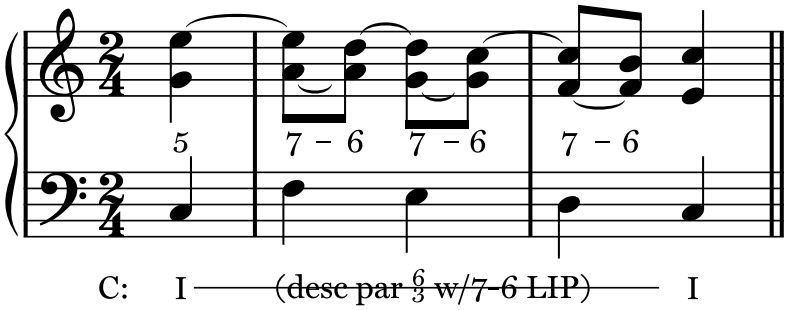


Translation: As foretold by David and the Sibyl.

With 7–6 Motion One way to break up parallel motion when writing a series of $\frac{6}{3}$ chords is to delay the arrival of one of the chord members with a suspension. We have already observed that descending-fifth sequences may feature linear patterns such as 7–6 suspensions; these same intervals can be used with

a series of $\frac{6}{3}$ chords moving down by step as well, as shown in Examples 19.15 and 19.16. The 7–6 motion creates the effect of two "events" similar to the two-chord pattern of other sequence types.

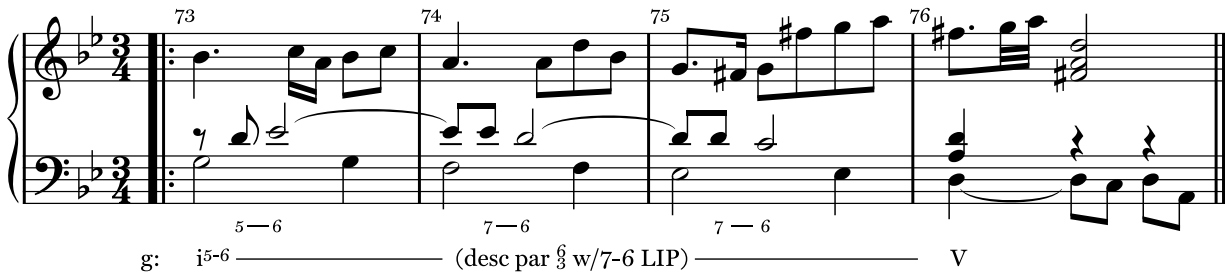
EXAMPLE 19.15: Descending parallel $\frac{6}{3}$ chords with 7–6 LIP



Again, if you analyze the "chords" here with Roman numerals, the root progression does not make much sense; the interval succession does, however, because of the resulting linear sequence, which is drawn from contrapuntal rather than harmonic models. If you hear a chain of 7-6 suspensions above a stepwise descending bass, its underlying motion will be parallel $\frac{6}{3}$ chords.

The chain of 7–6 suspensions is often prepared by a 5–6 motion to set up the first suspension, as in measure 73 of Example 19.16. Listen to this passage to hear how the 7–6 suspensions break up potential parallel motion. As with the other sequences, the 7–6 may appear between the bass and any upper voice—here, the upper voice of the left-hand part.

EXAMPLE 19.16: Handel, Chaconne in G Major, Variation 9, mm. 73–76


73
74
75
76
5 — 6
7 — 6
7 — 6
g: i5-6 (desc par 6/3 w/7-6 LIP) V

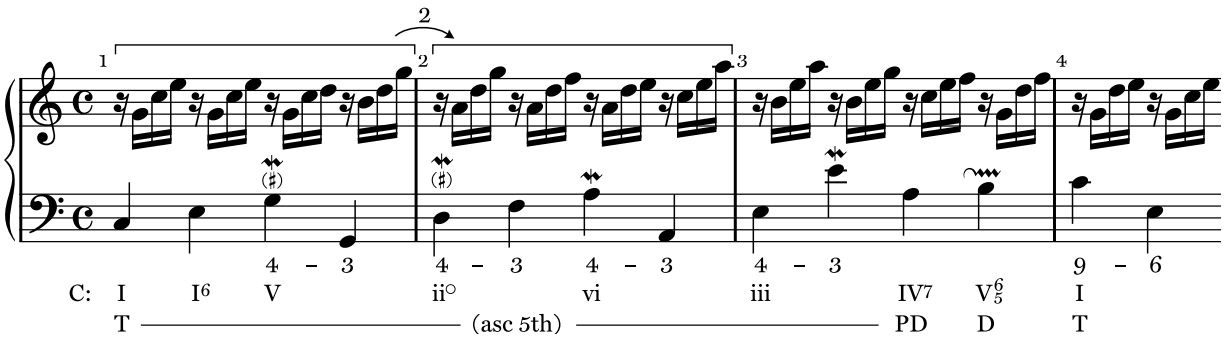
Ascending Sequences

Although ascending sequences are much less common in music literature than descending, you may encounter some of the following types, whose patterns all ascend by step.

Ascending-Fifth Sequence

Example 19.17 shows an ascending-fifth sequence at the beginning of a Bach prelude. The pattern consists of two harmonies and spans one measure, with each pattern transposed up by step (roots C–G, D–A). A lovely detail is the use of 4–3 suspensions embellishing each harmony, alternating in an inner and outer voice in the right hand. As with the descending-fifth sequence, the root progression between adjacent chords alternates ascending fifth and descending fourth.

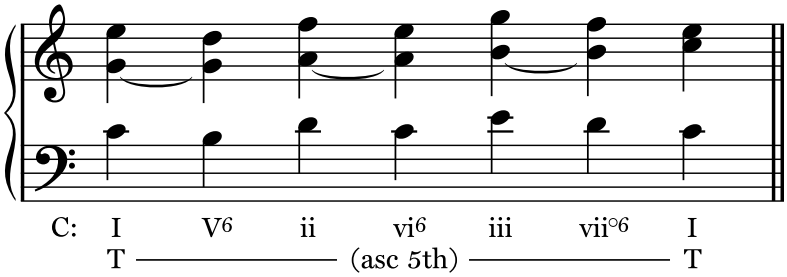
EXAMPLE 19.17: Bach, Prelude in C Major, BWV 924, mm. 1–4



Like the descending-fifth sequence, the ascending-fifth may appear with alternate harmonies inverted. Example 19.18 shows the same sequence with the second chord of each pattern inverted. The usual voice-leading is in three parts: one voice in

each pattern holds a common tone, while the other two move down a step in parallel tenths. If the cycle of fifths is completed, this sequence prolongs the tonic harmony.

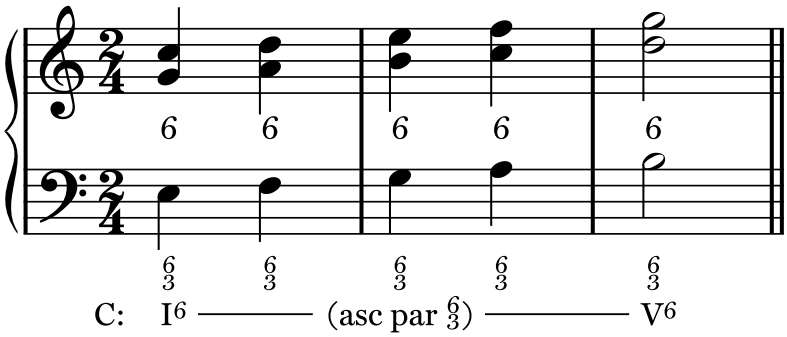
EXAMPLE 19.18: Framework for an ascending-fifth sequence



Ascending Parallel $\frac{6}{3}$ Chords

The LIP for an ascending parallel $\frac{6}{3}$ chord sequence (Example 19.19), as for the descending, is usually identified 6–6, though the middle voice makes 10–10 (or 3–3) with the bass. The sequence is normally written in three voices, without doubling. As before, analyze as shown.

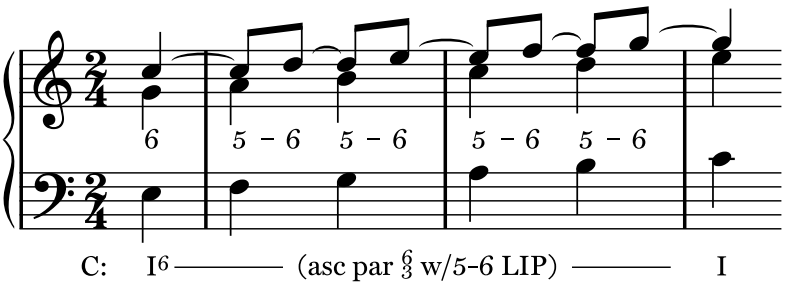
EXAMPLE 19.19: Ascending parallel chords



With 5–6 Motion An ascending sequence based on parallel $\frac{6}{3}$ chords is shown in Example 19.20. Here, a series of first-inversion triads moves up by step, but the arrival of the sixth

above the bass is delayed a half beat, making a 5–6 LIP.

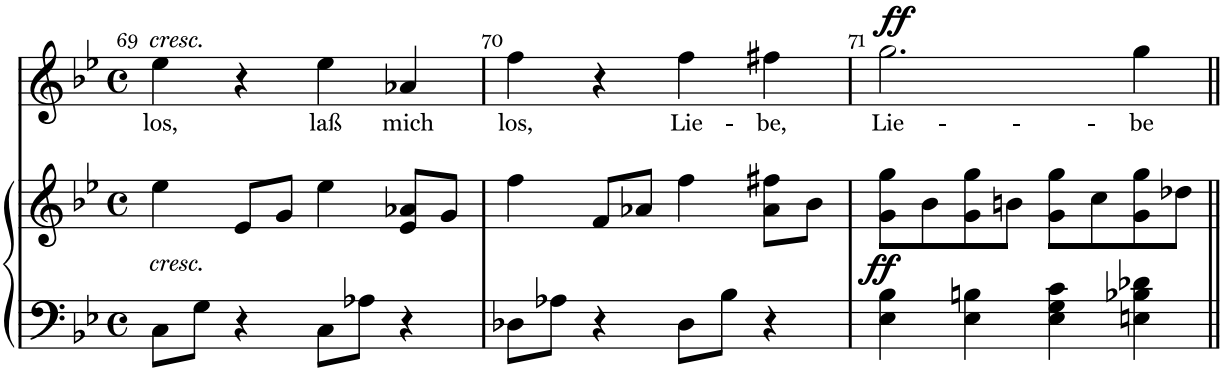
EXAMPLE 19.20: Ascending seconds (5–6 LIP)



Listen to measures 69–71 of "Neue Liebe, neues Leben" (Example 19.21a) to hear this pattern. Remember that the 5–6 motion may be between the bass and any upper part; here, the upper part is in the left hand of the accompaniment. Ascending sequences like this one, though beautiful, are not frequently found in music literature—they divert the harmonic progression from its traditional goal-directed motion from tonic to dominant.

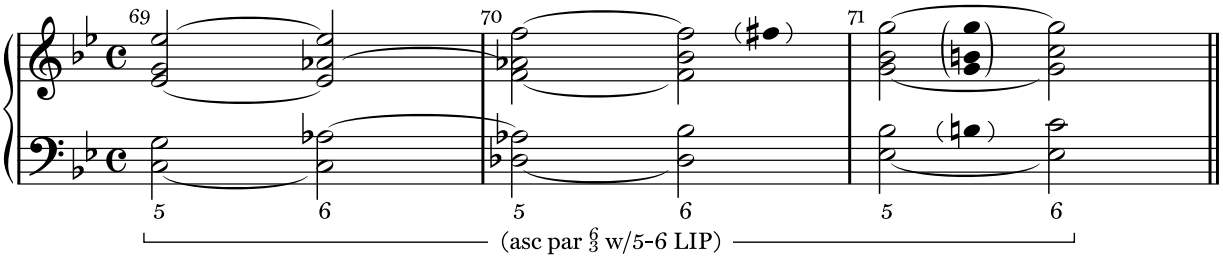
EXAMPLE 19.21: Hensel, "Neue Liebe, neues Leben"

(a) Mm. 69–71



Translation: Let me go, love!

(b) Reduction of mm. 69–71



SUMMARY

The following sequences have a pattern transposed down by step:

- descending fifth
- descending parallel $\frac{6}{3}$ chords
- descending 7–6 with parallel $\frac{6}{3}$ chords

The following sequences have a pattern transposed up by step:

- ascending fifth
- ascending parallel $\frac{6}{3}$ chords
- ascending 5–6 with parallel $\frac{6}{3}$ chords

The Pachelbel sequence has a pattern transposed down by thirds.

When you encounter a sequence in a piece of music, write a contextual analysis below the Roman numerals to clarify the harmonic function and goal of the passage. You might replace beat-by-beat Roman numerals with a label on the first and last chord, plus a label that describes the sequence type from

among the following.

- descending fifth: “desc 5th” (specify “root,” “alt 7ths,” or other inversions)
- Pachelbel: “Pach” (specify “alt $\frac{6}{3}$” if present)
- ascending fifth: “asc 5th” (specify “root” or “alt $\frac{6}{3}$”)
- parallel $\frac{6}{3}$ chords: “asc par $\frac{6}{3}$” (specify 5–6 if present) or “desc par $\frac{6}{3}$” (specify 7–6 if present)

It may also be helpful to label sequences with brackets and arrows to show the pattern’s transposition, and numbers to show the LIP: 6–6, 10–10, 7–6, and so on.

Finally, remember that individual chords within sequences have a weak harmonic function on their own—they are conveyances between stable harmonic areas. Sequences are like subways, buses, or trains: you get on at one location, ride for a while, and get off when you reach your destination. They are usually preceded by a chord or harmonic progression that sets up the tonic and key of the starting location, and they connect at their termination to a progression that reestablishes the key. Some sequences “travel” within one key area, while others move from one key to another.

You could also think of sequences like suspension bridges with pillars at both ends holding up the bridge, but taut cables strung between them supporting the middle. In performance, focus on broad goals and motion between the pillars at the beginning and end.

Did You Know?

The Pachelbel sequence is one that has emerged as a recurrent harmonic foundation of pop and rock songs. In fact, a popular YouTube video by Rob Paravonian (“Pachelbel Rant”) describes how he is haunted by this

progression in every musical genre he hears–from classical to folk to rock. In addition to Coven's "One Tin Soldier," other songs you may have heard with this progression are Aerosmith's "Cryin'," Green Day's "Basket Case," and Avril Lavigne's "Sk8er Boi." To compare a 1970s and 90s treatment of the Pachelbel sequence, listen to "Go West" (1979) by the Village People, and a cover of the song by the Pet Shop Boys (1993); the latter was nominated for a Best Music Video Grammy in 1995. Listen to any of these while singing along with the bass line, and perhaps Pachelbel will haunt you as well!

TERMS YOU SHOULD KNOW

level of transposition
linear intervallic pattern (LIP)
parallel $\frac{6}{3}$ chords
- with 5–6 (ascending)
- with 7–6 (descending)

sequence
- diatonic
- chromatic
- harmonic
- melodic
- ascending fifth
- descending fifth
- Pachelbel

sequence pattern

QUESTIONS FOR REVIEW

1. What are sequences? Where will you find them?
2. What do you look for in analyzing a sequence pattern?
3. Which root progressions work well in sequence frameworks?
4. What aspects of dissonance resolution must be retained in sequences?
5. What part-writing guidelines are relaxed when you connect chords in a sequence?
6. What steps would you take to write a Pachelbel sequence? How does this sequence type differ from others?

7. What are the LIPs that may be added to parallel $\frac{6}{3}$ chords to create a sequence?
8. In an embellished sequence, how can you tell which sequence framework (e.g., descending fifth, ascending 5–6) is being used?
9. In music for your own instrument, find two different sequences and label their types.

Know It? Show It!

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20 Secondary Dominant and Leading-Tone Chords to V

Outline

Intensifying the dominant

Secondary dominants to V

- Spelling secondary dominants
- Tonicization and modulation
- Secondary dominants to V in the basic phrase
- Writing and resolving
- Cross relations

Secondary leading-tone chords to V

- Writing and resolving

Secondary-function chords in dominant expansions

Overview

This chapter explains how to write and analyze chromatic chords that intensify motion toward the dominant.

Repertoire

Johann Sebastian Bach

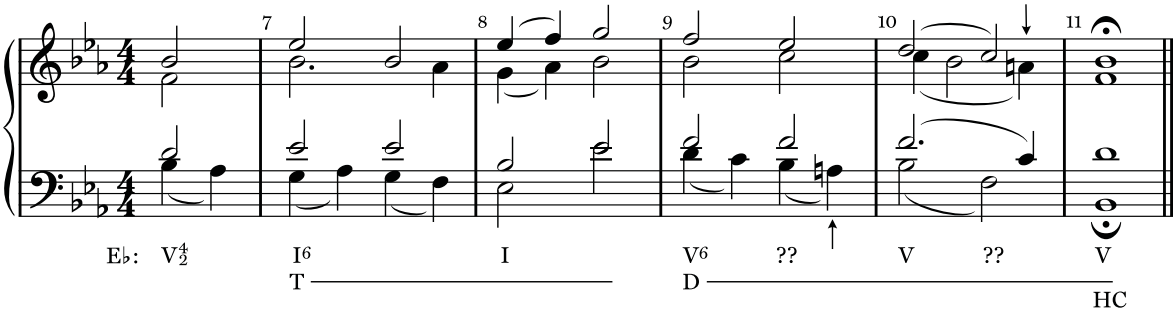
"Ermuntre dich, mein schwacher Geist" ("Take Courage, My Weak

Spirit," Chorale No. 102)
"Wachet auf" ("Awake," Chorale No. 179)
Scott Joplin, "Pine Apple Rag"
Wolfgang Amadeus Mozart
Piano Sonata in C Major, K. 545, mvt. 1
Rondo in E♭ Major for Horn and Orchestra, K. 371
Elvis Presley and Vera Matson, "Love Me Tender"

Intensifying the Dominant

Listen to a phrase from Bach's setting of "Wachet auf," given in Example 20.1.

EXAMPLE 20.1: Bach, "Wachet auf," mm. 7–11



The phrase begins with a prolonged tonic (mm. 7–8) and ends with a half cadence in measure 11. The two A♮s (marked with arrows) in measures 9 and 10 represent a raised $\hat{4}$. Write this scale degree as $\sharp\hat{4}$, to symbolize the chromatic inflection of $\hat{4}$ up by half step, even in flat keys (as here) where the score notation calls for a natural rather than a sharp.

This $\sharp\hat{4}$ changes the function of the last chord of measure 9: F-A♮-C-E♭ in first inversion (the B♭ on beat 3 is an accented passing tone). Although this chord is built on $\hat{2}$ (F) in E♭ major, it is not a ii$^6_5$ chord, because its bass is the nondiatonic pitch A♮ instead of A♭. The quality of the chord, a dominant seventh, reveals its local function. Dominant sevenths—whether built on $\hat{5}$ or not, whether diatonic or not—generally function like dominants, even if only in a localized way.

If you found this dominant seventh (F-A♮-C-E♭) written without a key context, you could determine its implied tonic in one of two ways:

- count a P5 down (or P4 up) from its root, or
- move a m2 up from the chord's third (A♮, the leading tone).

Both methods reveal that this V^7 should resolve to either B♭ major or B♭ minor as its tonic. Indeed, both F-A♮-C-E♭ chords in measures 9–10 resolve to B♭ major (V in E♭) on the next beat; they function like "temporary dominants" to the V chord.

KEY CONCEPT Chords that act like dominants in their spelling and resolution, but resolve to a scale degree and harmony other than the tonic, are called **secondary dominants**. Secondary dominants to V are analyzed as V/V (read "V of V").

Secondary dominants are sometimes called "applied dominants" (a type of **applied chord**, because they are "applied" to a chord other than the tonic) or "secondary-function" chords. In Roman numeral analysis, applied dominants are sometimes notated with arrows that point to their chord of resolution, rather than the "slash" notation used here.

Look again at Example 20.1. We can now provide all the Roman numerals for measures 9 and 10: V^6 V^6_5/V | V V/V, ending with a half cadence on V (m. 11). Each A♮ (♯$\hat{4}$) functions as a "temporary" leading tone to $\hat{5}$, intensifying the arrival on the half cadence. Measures 9–11 prolong the dominant harmony. The chorale, however, clearly stays in E♭ major, with the next phrase beginning on the E♭ tonic and concluding with a PAC.

Secondary Dominants to V

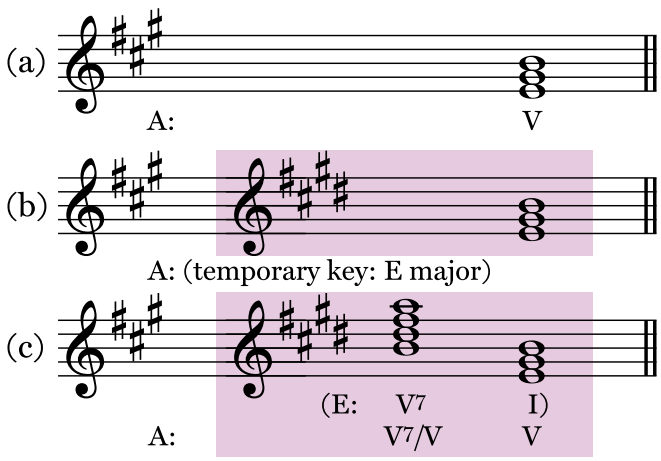
Spelling Secondary Dominants

To understand secondary dominants to V, first think of V (v in minor) as a temporary tonic key rather than a chord, and then imagine what the dominant (or dominant seventh) chord would be in that temporary key. For example, for a V^7/V in A major (Example 20.2):

- think of the dominant harmony in A major (part a);
- the temporary tonic key would therefore be E major (part b), and
- *its* dominant harmony is B major (part c).
- So V^7/V in A major is a B major chord (B-D♯-F♯-A).

The D♯ in E major's key signature is crucial in spelling the secondary dominant correctly. In music literature, though, you are more likely to find secondary dominant seventh chords (V^7/V) rather than triads, since their Mm7 chord quality marks them unambiguously as having a dominant function (B-D♯-F♯-A). In either case, the music has not left the primary key; the idea of imagining a temporary new tonic is a simple aid in spelling the secondary dominant correctly.

EXAMPLE 20.2: Spelling a secondary dominant to V in A major



Another Way

You might also think of the secondary dominant in major keys as an altered ii (predominant) chord: raise the third to give it a major or dominant seventh quality (II or II^{7}). (In Example 20.2, the tonic chord is A major; the major supertonic is B major.) The chord quality resulting from this chromatic alteration, together with the voice-leading and resolution of the chord, define it as a secondary dominant (which we will label V/V or V^{7}/V—*not* II or II^{7}).

All V^{7}/V or V/V chords are spelled by raising $\hat{4}$ to $\sharp\hat{4}$, which functions as the leading tone to V. To spell a secondary dominant in a minor key, however, two chromatic alterations are necessary: $\hat{4}$ is raised to $\sharp\hat{4}$, and $\flat\hat{6}$ is raised to $\hat{6}$. Imagine, for example, C minor (three flats) and the temporary minor-dominant key of G minor (two flats). The change in key signature (to G minor) provides the raised $\flat\hat{6}$ (A$\flat$ to A$\natural$), and changing $\hat{4}$ to $\sharp\hat{4}$ (F to F$\sharp$) creates the temporary leading tone and the dominant seventh (Mm7) quality. In sum, V^{7}/V in C minor is spelled D-F$\sharp$-A$\natural$-C, just as in C major.

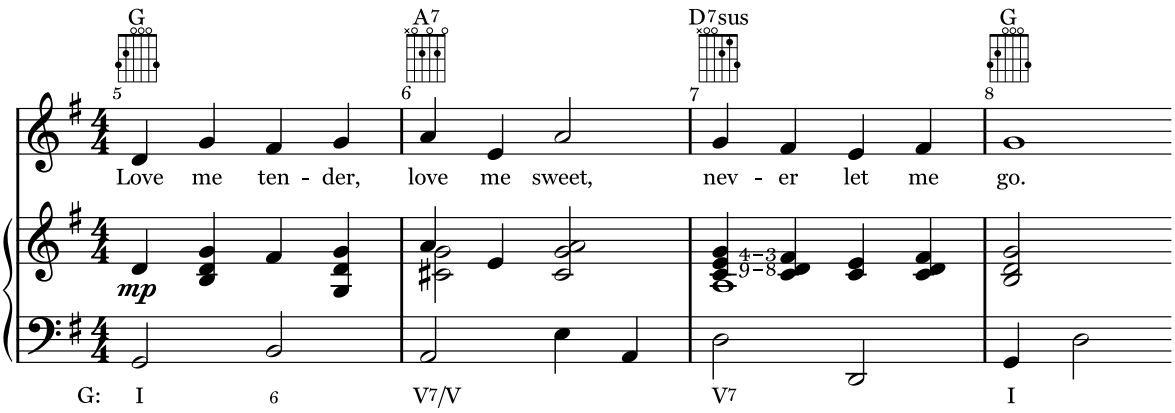
KEY CONCEPT To spell a secondary dominant to V,

double-check that

- the chord is built on $\hat{2}$ (a fifth above $\hat{5}$),
- the triad quality is major (with $\sharp\hat{4}$; in minor, also raise $\flat\hat{6}$ to $\hat{6}$), and
- the chordal seventh (if present) is minor, creating a Mm7 chord.

Secondary dominants to V may be found in many styles. Example 20.3 shows the opening phrase of "Love Me Tender." The dominant seventh chord in measure 7 is intensified by an A^7 chord, V^7/V, in measure 6; the C♯ here acts as a temporary leading tone to D, the dominant of G. You can get a snapshot of the harmonic motion from the chord symbols above the staff. The D^7sus in m. 7 accounts for the 9–8 and 4–3 suspensions.

EXAMPLE 20.3: Presley and Matson, "Love Me Tender," mm. 5–8



The secondary dominant to V is one of the most common chromatic chords—often found at phrase endings or in other passages where the dominant harmony is prolonged. Practice spelling V^7/V in various keys, and look for it in pieces you play (the presence of $\sharp\hat{4}$ is an important clue).

SUMMARY

To spell V^7/V in any key:

(a) • Imagine the dominant harmony as a temporary tonic key (in A major, imagine E major as the tonic; in A minor, imagine E minor as the tonic).

• Using that key signature and key, spell its dominant seventh chord (in E major or minor, V^7 is B-D♯-F♯-A).

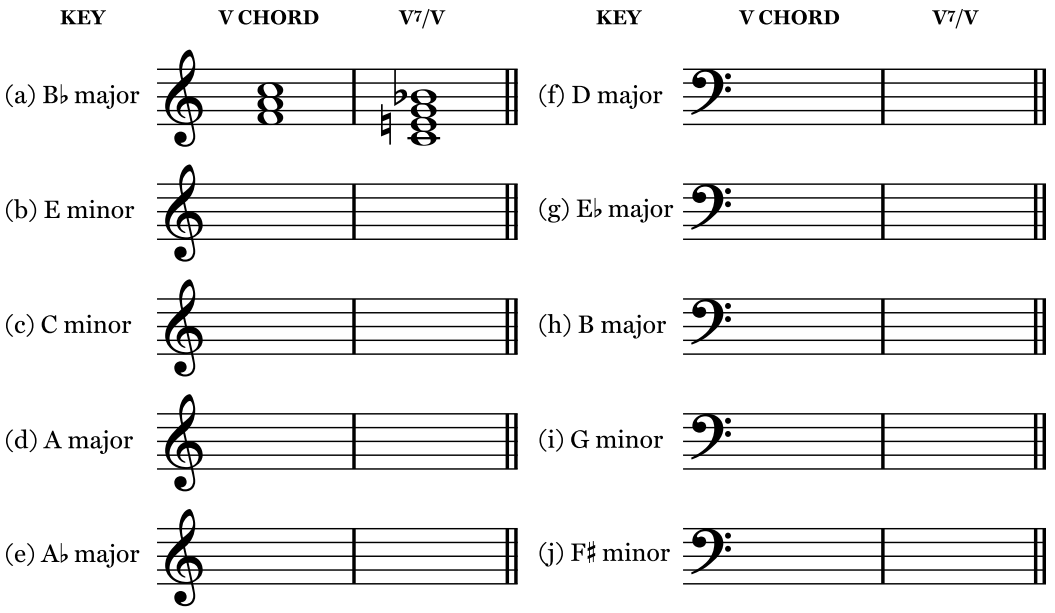
(b) Or build a dominant seventh chord on $\hat{2}$ of the primary key.

With either method, double-check that the chord has the appropriate accidentals to create a Mm7 quality. In minor keys, it will need two accidentals.

Try it #1

For each of the keys below, build a secondary dominant seventh chord by writing first the V chord and then the dominant of this key area. (You can double-check your answer by means of the altered ii chord method.) Write the chords on the staff with accidentals, rather than key signatures.

Show answers



Tonicization and Modulation

When a secondary dominant resolves, making its chord of resolution seem like a temporary tonic, the effect is called **tonicization**. When a harmony like V is tonicized, the key of the passage does not change except in a very temporary sense. The temporary tonic then returns to its normal functional role in the primary key and progresses as usual.

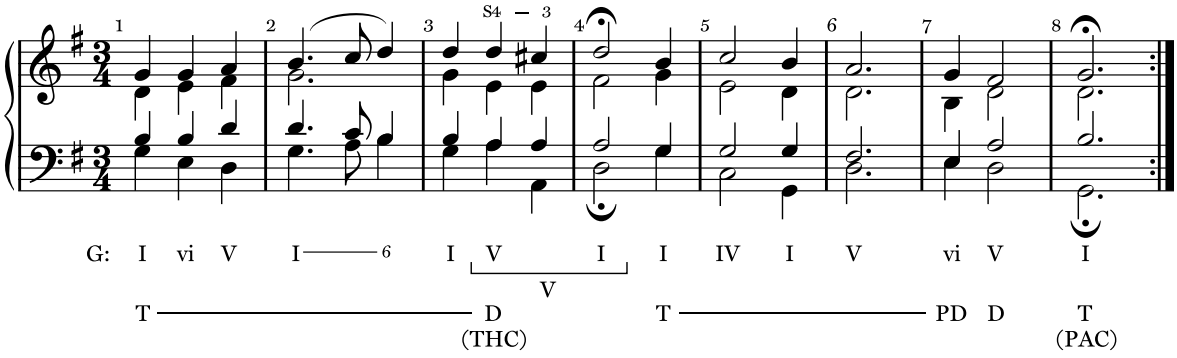
Tonicizations of greater structural significance are called **modulations**. To identify a modulation, look for such musical indications as

- a continuation of the passage in the new key,
- an authentic cadence in the new key,
- the presence of a predominant harmony in the new key.

Example 20.4 shows another of Bach's chorale settings, an example of tonicization. Phrase 1 ends in measure 4 with V/V (including a 4–3 suspension), tonicizing V (D) at the half cadence. Then immediately after the fermata, phrase 2 begins clearly in G major with a tonic chord. A half cadence preceded by a secondary dominant is called a **tonicized half cadence (THC)**.

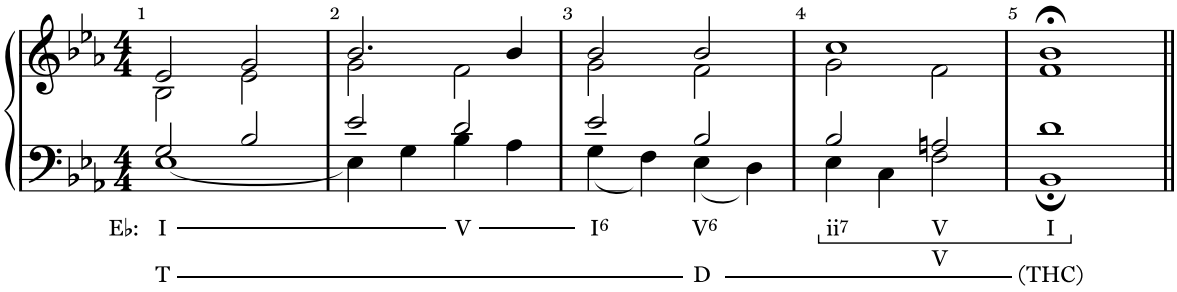
The Roman numerals here illustrate another way to analyze secondary dominants, with "bracket notation": the tonicized chords are labeled briefly as though in the key of V, with a bracket labeled with that Roman numeral. Be careful not to confuse the I chord under the fermata (in the dominant key) with the I chord after the fermata (in the tonic key). Bracket notation is particularly appropriate if there is more than one secondary dominant in a row, or if the V/V is embellished with a cadential $\frac{6}{4}$ or a suspension, as here.

EXAMPLE 20.4: Bach, "Ermuntre dich, mein schwacher Geist," mm. 1–8



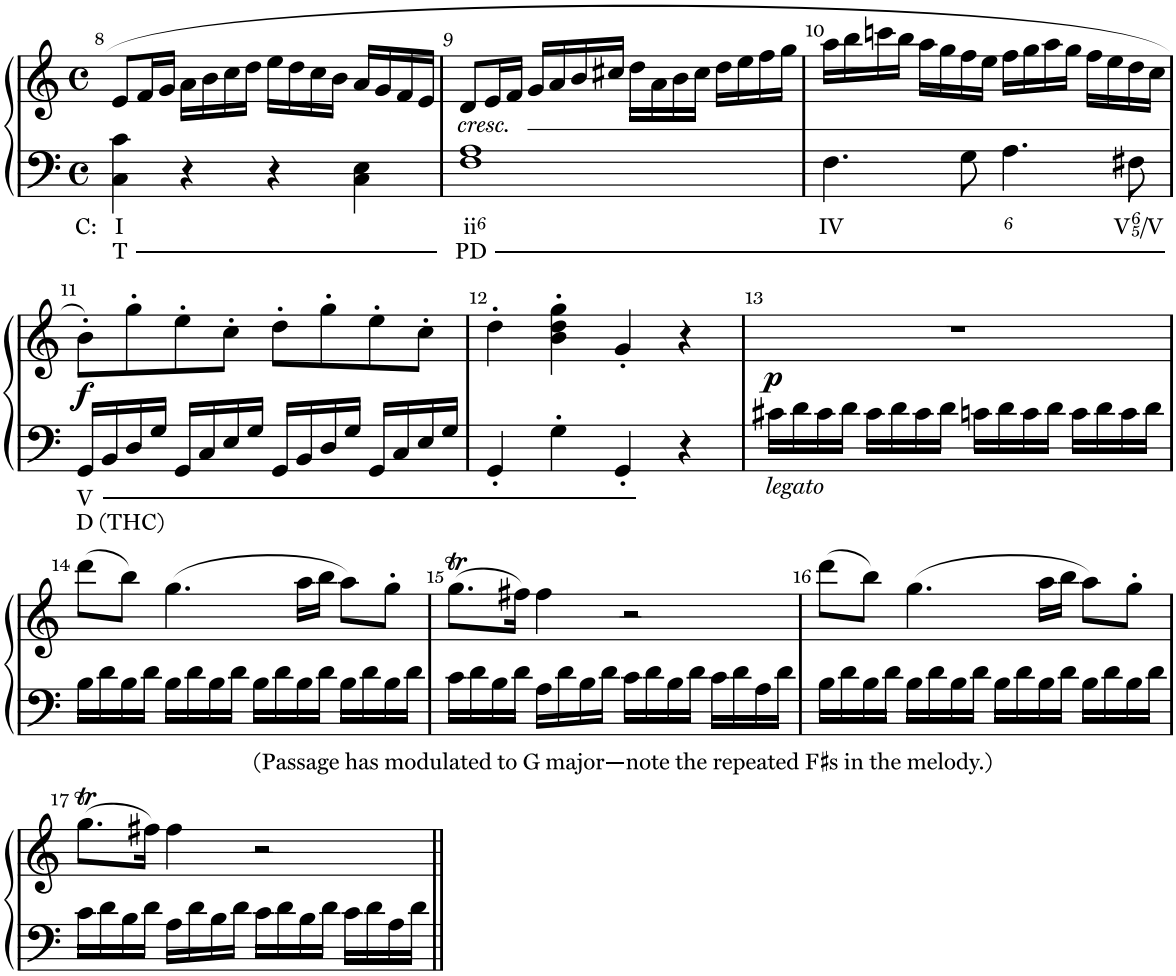
If the secondary dominant is preceded by a vi chord (or vi^7), you can think of it as a predominant ii or ii^7 within the tonicized area (see m. 4 in Example 20.5). This example meets minimum standards for a modulation, but the effect of V as the tonic is brief; we have labeled it a THC.

EXAMPLE 20.5: Bach, "Wachet auf," mm. 1–5



In contrast, if the music after the tonicized half cadence continues in the dominant key, as in Example 20.6 (from m. 13), then a modulation has occurred, though we do not know that until the beginning of the following phrase.

EXAMPLE 20.6: Mozart, Piano Sonata in C Major, mvt. 1, mm. 8–17



(Passage has modulated to G major—note the repeated F♯s in the melody.)

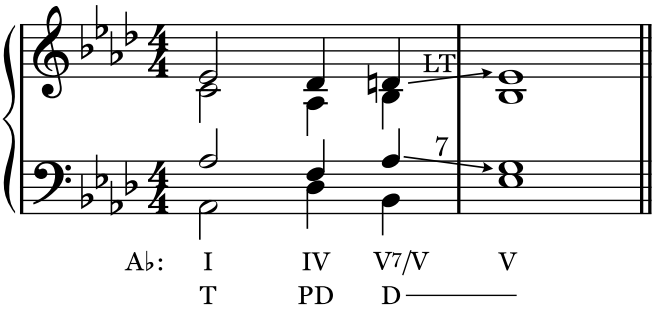
Secondary Dominants to V in the Basic Phrase

The most common role for V^7/V or V/V in the basic phrase is to replace or follow a predominant-function harmony, as in Example 20.7. You could think of V^7/V as a supercharged ii^7: the raised $\hat{4}$ combined with the descending-fifth root progression (already present between ii^7 and V) makes a very strong pull toward V—as though the V^7/V were functioning as a predominant.

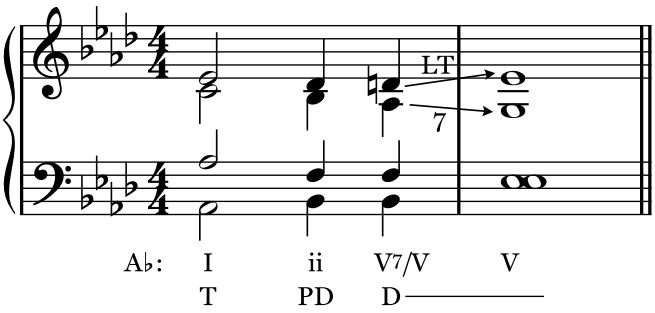
KEY CONCEPT Because the V^7/V "belongs to" the dominant, its temporary key, place it in the dominant area of the basic phrase in your contextual analysis (even though V^7/V can be considered an altered predominant).

EXAMPLE 20.7: Typical contexts for a secondary dominant to V

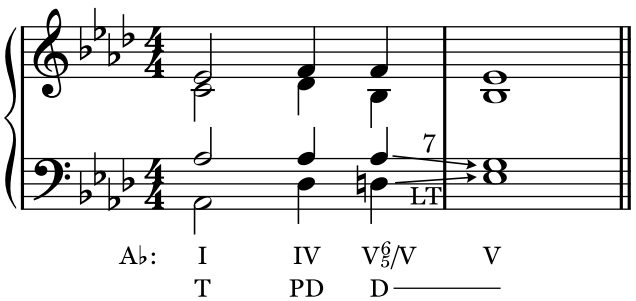
(a) Preceded by IV



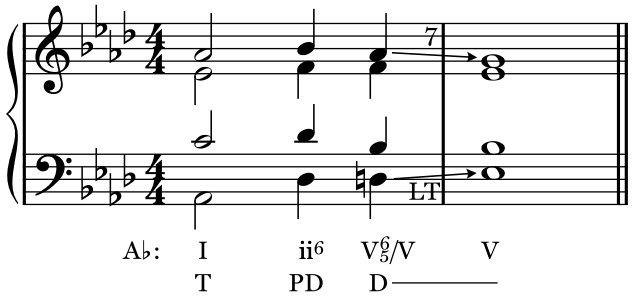
(b) Preceded by ii



(c) Preceded by IV



(d) Preceded by ii^{6}

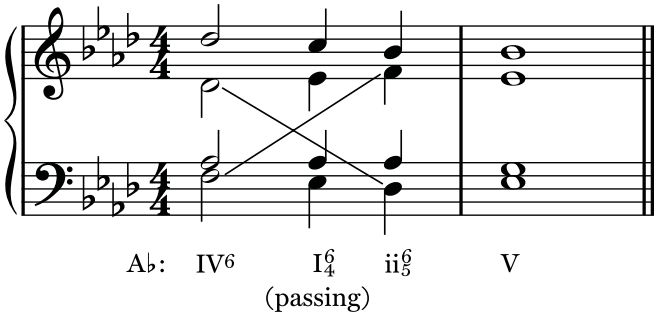


As in progressions from V to I, you can control the strength of the harmonic progression between the secondary dominant and temporary tonic by the choice of inversion and whether to include the seventh. The V^6_5/V, for example, is a common inversion choice because it can allow a chromatic ascent to V in the bass line $\hat{4}$–$\sharp\hat{4}$–$\hat{5}$ (parts c and d).

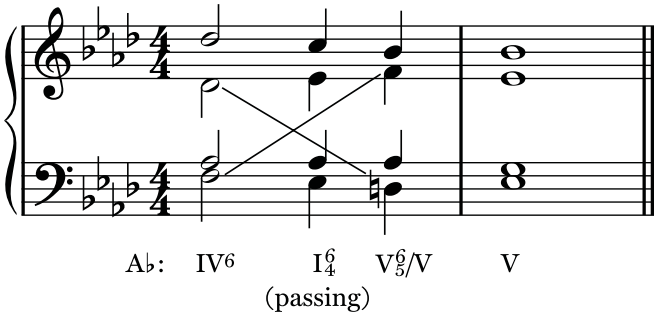
One way to produce a strong and smooth connection between the predominant harmony and V^7/V is by writing a **chromatic voice exchange**. The voice exchange usually occurs between the bass and an inner voice, as in Example 20.8. Part (a) shows a diatonic version of the voice exchange (with $\hat{6}$ and $\hat{4}$), embellished by a passing I^6_4 chord. In part (b), the voice exchange is chromatically inflected between $\hat{4}$ (D♭) and $\sharp\hat{4}$ (D♮). For a voice exchange to be considered chromatic, at least one pitch must appear in both its diatonic form and its chromatically inflected form (here, D♭ and D♮).

EXAMPLE 20.8: Diatonic and chromatic voice exchange

(a) Diatonic

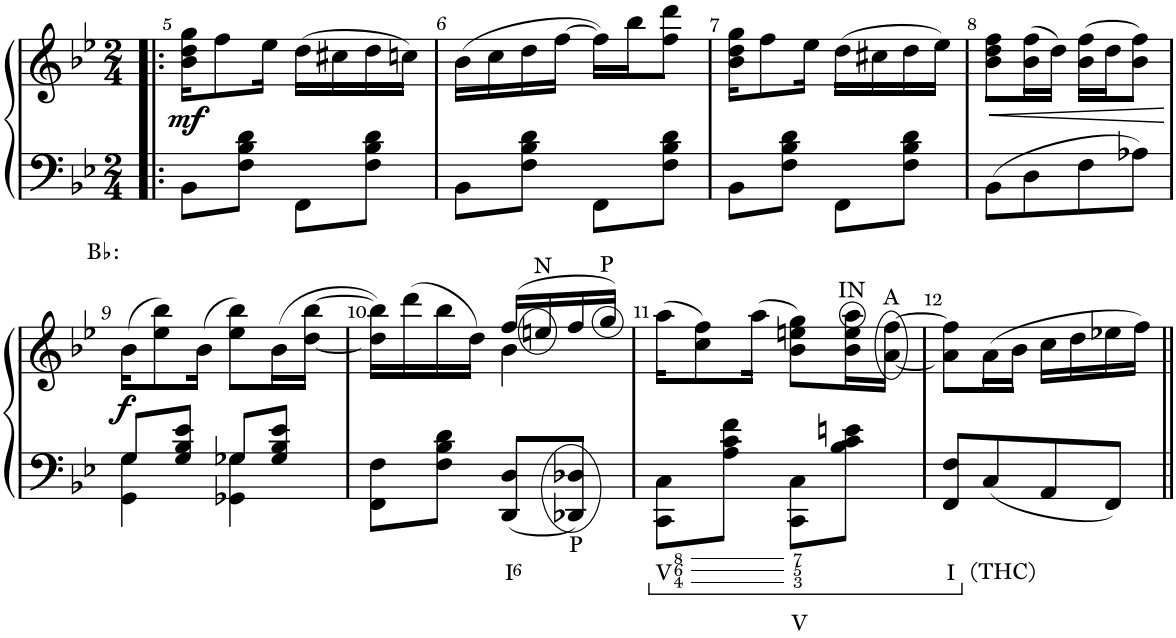


(b) Chromatic



The V^7/V may also be expanded by a cadential $\frac{6}{4}$ in the tonicized key, as in Example 20.9. In measure 11, the voice-leading of the cadential $\frac{6}{4}$ in the tonicized dominant key (F major) is the same as it would be in the tonic key, and the bracket notation makes this voice-leading clear. The secondary dominant (C-E♮-G-B♭) then resolves to V in measure 12, making a half cadence. This is only a tonicized half cadence and not a modulation to F major, as the phrase that begins in measure 13 starts out the same as the first one, firmly in the key of B♭ major.

EXAMPLE 20.9: Joplin, "Pine Apple Rag," mm. 5–12



Writing and Resolving

Since you already have written dominant-to-tonic progressions, you may find it helpful to think of the two-chord secondary-dominant progression as being in a temporary key for just those two chords. Imagine that the two chords have a box around them; spell and resolve the chords inside this "tonicization box" as though they were in the temporary key. Remember, however, to write in the main key of the phrase outside the tonicization box.

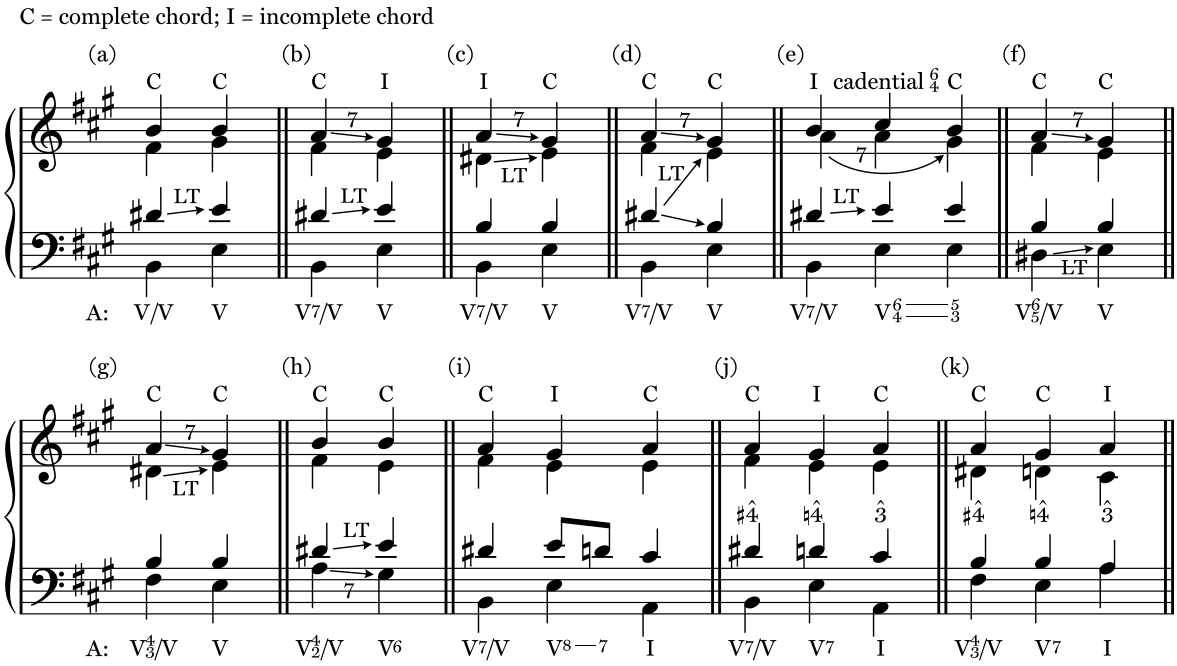
No new part-writing procedures are needed to resolve V7/V, V/V, or their inversions; write them just like V(7)–I progressions. All aspects of this chord connection—doubling, resolving tendency tones, and voicing—remain the same for secondary dominants, as illustrated in Example 20.10. The main thing to remember is to spell the secondary dominant chord with the necessary accidentals. The voice-leading guidelines below are identical for major and minor keys.

KEY CONCEPT Writing and resolving a V^7/V in common-practice style:

- Avoid doubling the $\sharp\hat{4}$ (because of its leading-tone function).
- Resolve the temporary leading tone up ($\sharp\hat{4}$ moves up to $\hat{5}$).
- Resolve the chordal seventh down ($\hat{1}$ moves down to $\hat{7}$).
- When root-position V^7/V moves to V or V^7, one chord should be complete and the other incomplete in order to avoid unacceptable parallels.

EXAMPLE 20.10: Resolutions of V/V and V^7/V

(a-f) (g-k)



SUMMARY

Resolving secondary dominants (Example 20.10):

1. When moving from a V/V to a V, both chords are complete and resolve normally (part a).

2. When moving from a complete V^7/V to V, the V will be incomplete (with three roots and a third) if you resolve all the tendency tones correctly (part b).

3. If you want to resolve a V^7/V to a complete V chord, as for a HC,

   - use an incomplete V^7/V (missing its fifth; part c); or
   - let the temporary leading tone skip instead to the fifth of the V (part d). The note to which the leading tone *should* resolve is usually in another voice (as shown by the dotted arrow).

4. The V chord may be embellished by a cadential $\frac{6}{4}$ (part e).

5. If the V^7/V is inverted, this chord and the V chord should both be complete (parts f–h). Often, the resolution to V is embellished by 8–7 motion before a cadence on I (part i): the $\sharp\hat{4}$ moves to $\hat{5}$ first, then down to $\flat\hat{4}$.

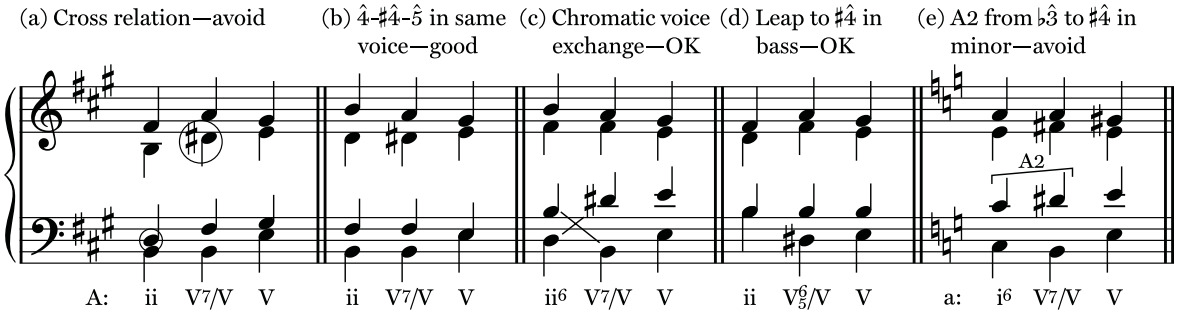
6. When V^7/V resolves directly to a V^7, one important voice-leading guideline changes: the $\sharp\hat{4}$ shifts downward (not up to $\hat{5}$) to become the seventh of V^7 (parts j and k). Here, as the V^7 resolves to I, the downward pull of $\sharp\hat{4}$–$\flat\hat{4}$–$\hat{3}$ overcomes the upward tendency of the temporary leading tone.

Cross Relations

When a secondary dominant is preceded by one of the predominant chords, IV or ii, then the chromatic alteration of $\hat{4}$ to $\sharp\hat{4}$ should be handled carefully.

KEY CONCEPT The sudden introduction of ♯$\hat{4}$ in one voice right after the diatonic $\hat{4}$ sounds in another voice, called a **cross relation** (Example 20.11a), is generally avoided in common-practice music. Keep the chromatically altered pitch in the same voice as the diatonic pitch (part b): $\hat{4}$–♯$\hat{4}$–$\hat{5}$.

EXAMPLE 20.11: Possible voice-leading problems


(a) Cross relation—avoid
(b) $\hat{4}$-♯$\hat{4}$-$\hat{5}$ in same voice—good
(c) Chromatic voice exchange—OK
(d) Leap to ♯$\hat{4}$ in bass—OK
(e) A2 from ♭$\hat{3}$ to ♯$\hat{4}$ in minor—avoid
A2
A: ii V7/V V
ii V7/V V
ii6 V7/V V
ii V^6_5/V V
a: i6 V7/V V

In eighteenth-century style, there are two permissible contexts for a cross relation. The first is the chromatic voice exchange (part c), which works best with the chromatic note in an inner voice, as here, or with the voice exchange filled in with passing tones (Example 20.7b). The second occurs when the bass leaps to ♯$\hat{4}$ (part d), as long as the cross relation does not involve the soprano voice. For composers in other styles, cross relations may not seem so objectionable—indeed, they are rather common in some chromatic styles, such as barbershop harmony.

Be careful when you write secondary dominants in minor keys: if V7/V is introduced by i or VI, then scale degrees ♭$\hat{3}$ to ♯$\hat{4}$ produce a melodic augmented second (part e). You can avoid this by approaching the chromatic tone from above (e.g., $\hat{5}$ to ♯$\hat{4}$).

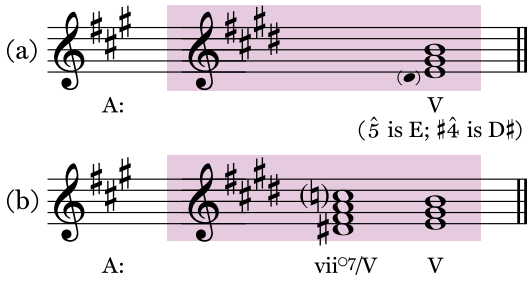
Secondary Leading-Tone Chords to V

Since leading-tone chords can substitute for V chords as a dominant function in many progressions, secondary leading-tone chords to V can likewise substitute for secondary dominants to V, in any progression where a weaker sense of the dominant is desired. Most common is the fully diminished vii^{ø7}/V and its inversions $\frac{6}{5}$ and $\frac{4}{3}$; less common are the vii$^{°6}$/V and vii^{ø7}/V.

KEY CONCEPT To spell a vii$^{°7}$/V chord in any key (Example 20.12):

1. Imagine the dominant triad (part a), and begin with the pitch a diatonic half step below $\hat{5}$ (on $\sharp\hat{4}$): in the key of A major, this is D♯.
2. Spell a fully diminished seventh chord (all minor thirds above the root, part b). In major keys, be sure to add an accidental to make the seventh of vii$^{°7}$/V diminished.

EXAMPLE 20.12: Spelling a secondary leading-tone seventh to V in A major

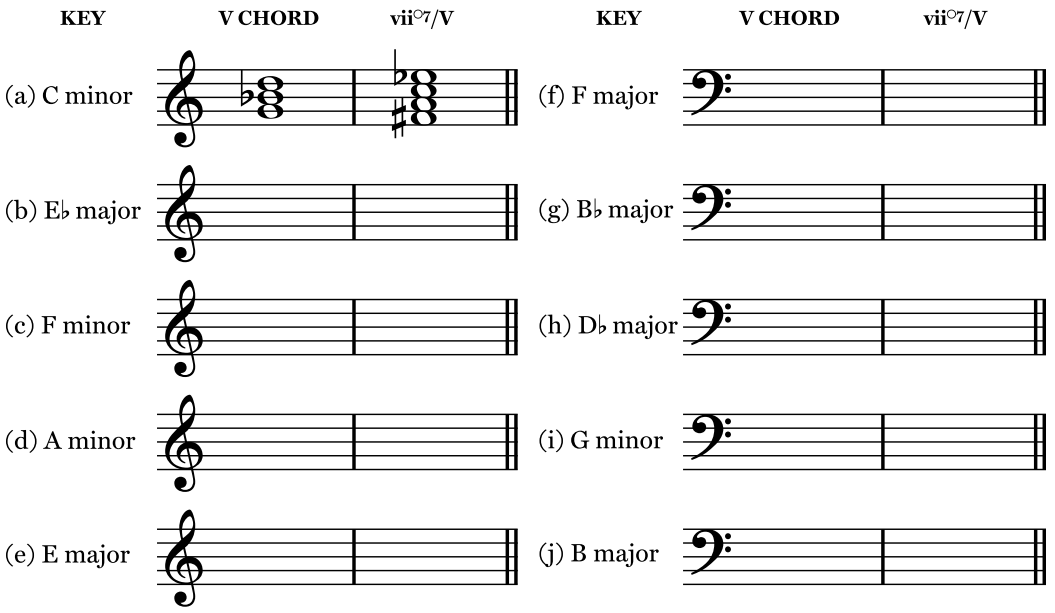


Try it #2

For each key below, build a vii$^{°7}$/V chord by first writing the V chord, and then finding the seventh chord built a diatonic half step

Show answers

below it. In major keys, add an accidental to make the vii°7/V diminished. Write the chords with accidentals rather than key signatures.



Writing and Resolving

The secondary leading-tone chord resolves to its temporary tonic (V) exactly as vii°7 does to I. The one element requiring close attention is spelling. Make ♯$\hat{4}$ (the temporary leading tone) the root of the chord, then be sure that the chord has a fully diminished seventh quality (most typical) or half-diminished quality (used to tonicize major triads only). Spell the secondary vii°7 chord as a stack of minor thirds above ♯$\hat{4}$ (in major keys, $\hat{3}$ needs to be lowered a half step); for vii$^{\varnothing 7}$, the top third will be a major third.

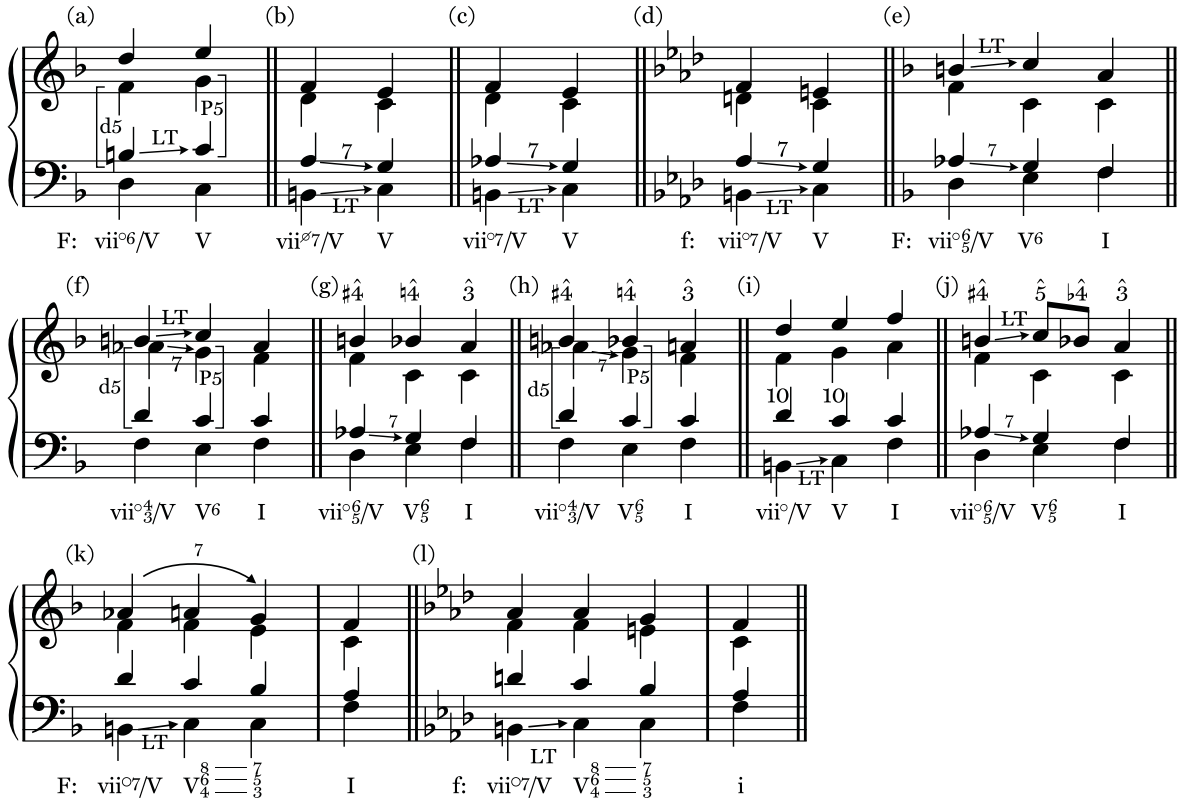
KEY CONCEPT When you resolve secondary leading-tone chords to V (Example 20.13):

- Move ♯$\hat{4}$ (the temporary leading tone) up to $\hat{5}$ (parts a–f, i–l).

- Move the chordal seventh down (from $\hat{3}$ or $\flat\hat{3}$ to $\hat{2}$; b–h and j).
- Avoid d5 to P5 unless you can place them in the inner voices (a, f, and h), or unless you can write parallel tenths between the soprano and bass (i); A4 to P4 is also permitted here.
- Be careful not to double the third in the chord of resolution (V)—it is the leading tone in the primary key.

In Example 20.13, part (b) shows the half-diminished version of the seventh chord, while the remaining parts feature the more typical fully diminished version. Parts (e) through (h) give short progressions to the tonic, with stepwise bass lines and the secondary leading-tone chord in inversion. As was the case with secondary dominants, the resolution to a V^7 chord involves one change in the voice-leading guidelines: $\sharp\hat{4}$ resolves down through $\natural\hat{4}$ to $\hat{3}$ (g and h); or it moves to $\hat{5}$ first, introducing 8–7 motion (j). Another possible resolution of $vii^{\circ 7}$ is to a cadential $\frac{6}{4}$ (k and l); in major keys, the $\flat\hat{3}$ temporarily moves up to $\hat{3}$ before its resolution to $\hat{2}$.

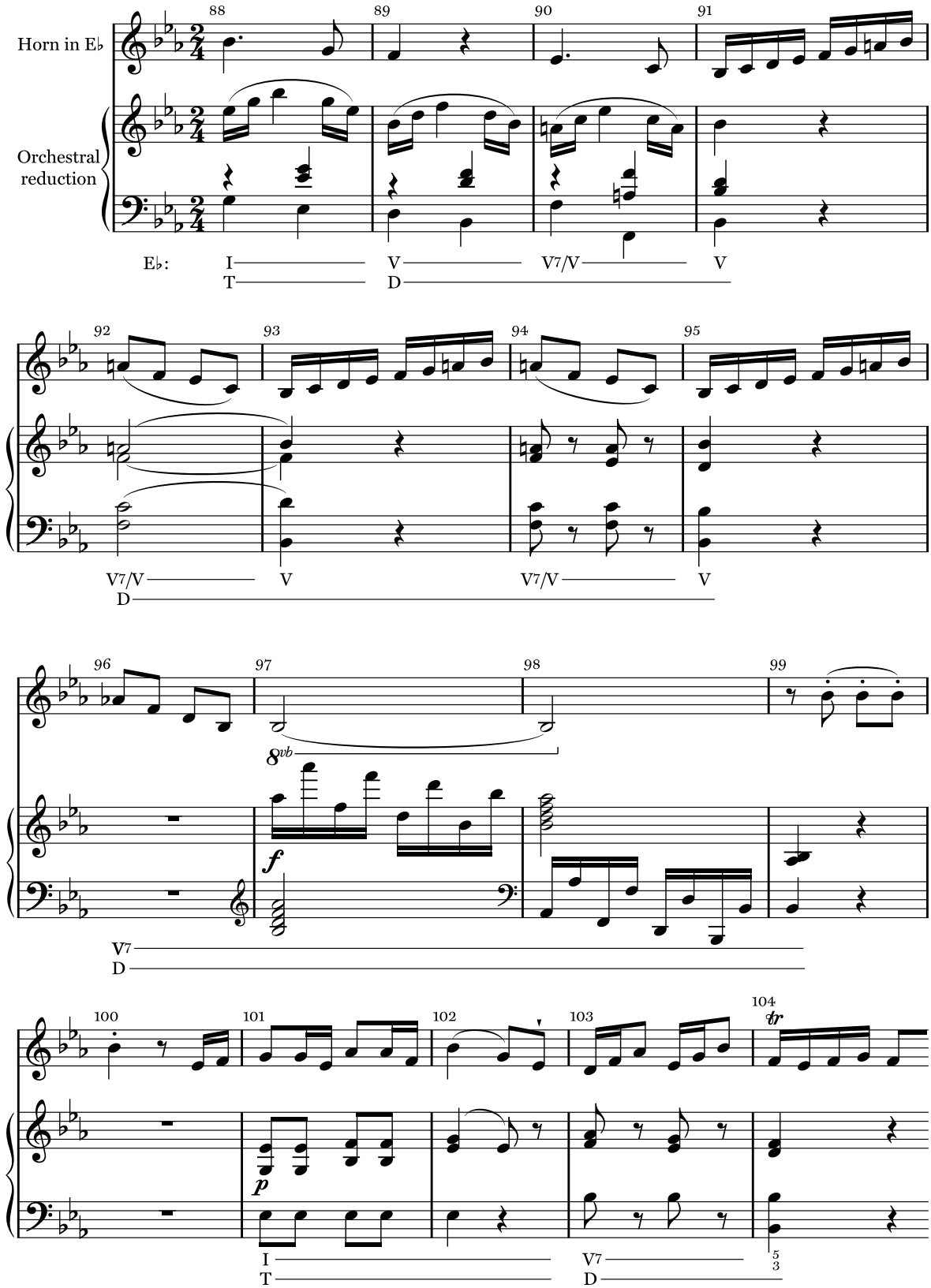
EXAMPLE 20.13: Resolutions of the secondary leading-tone seventh chord


(a)
(b)
(c)
(d)
(e)
d5
P5
LT
7
F: vii°6/V V
vii⌀7/V V
vii°7/V V
f: vii°7/V V
F: vii°6/5/V V6 I
(f)
(g)
(h)
(i)
(j)
♯4̂ ♮4̂ 3̂
10
5 ♭4̂
vii°4/3/V V6 I
vii°6/5/V V6/5 I
vii°4/3/V V6/5 I
vii°/V V I
vii°6/5/V V6/5 I
(k)
(l)
F: vii°7/V V8/6 7/4 5/3 I
f: vii°7/V V8/6 7/4 5/3 i

Secondary-Function Chords in Dominant Expansions

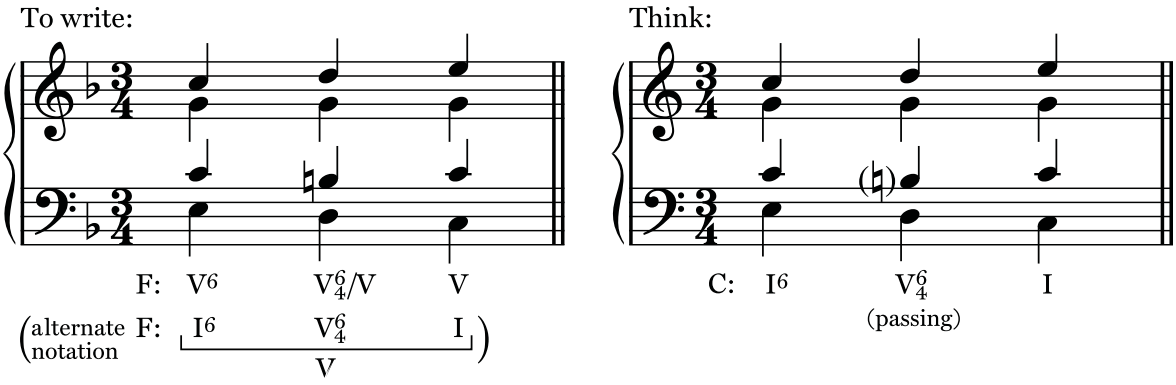
As the tonic area can be expanded with V or vii° chords and their inversions, so can the dominant area. Write these progressions with the same voice-leading, but replace I prolonged by V with V prolonged by V(7)/V or vii°(7)/V.

The excerpt in Example 20.14, a dominant expansion from Mozart's Horn Rondo in E♭ Major, begins with a strong E♭ major tonic arpeggiation, followed by the dominant. Then in measure 90, with the introduction of ♯4̂ (A♮), V7/V chords begin to alternate with V chords; this dominant expansion continues until measure 96. At that point, the dominant harmony becomes V7 and is arpeggiated until its eventual resolution to the tonic in measure 101, where the rondo's first theme is restated.

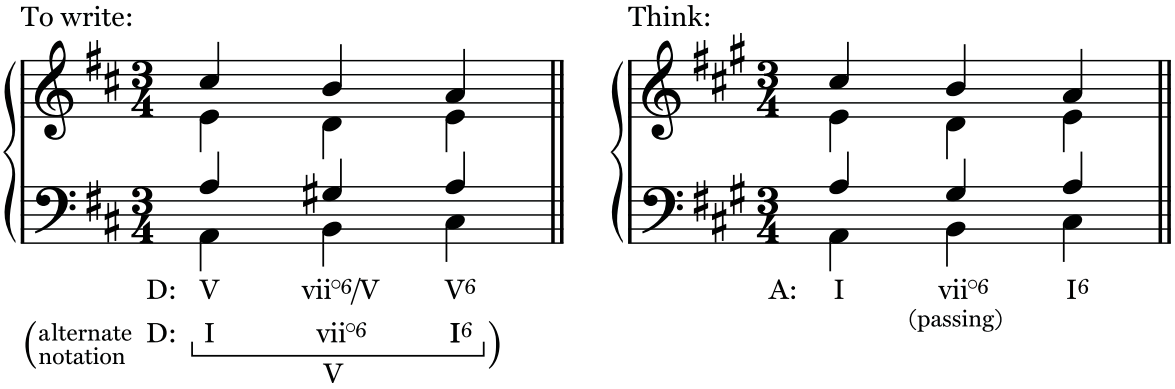
EXAMPLE 20.14: Mozart, Rondo in E♭ Major for Horn and Orchestra (notated in concert pitch), mm. 88–104

One way to expand V with secondary dominants is to think

about the prolongation temporarily in the key of the dominant—think of the "tonicization boxes" described earlier. Example 20.15 illustrates how to write V^6–V^6_4/V–V in the key of F: think of the familiar progression I^6–V^6_4–I in the key of C, changing B♭ to B♮. Similarly, to write V–$vii^{\circ 6}/V$–V^6 in the key of D (Example 20.16), you could write I–$vii^{\circ 6}$–I^6 in the key of A: this will remind you to add the G♯ needed for the $\sharp\hat{4}$.

EXAMPLE 20.15: Spelling a V^6–V^6_4/V–V dominant expansion



EXAMPLE 20.16: Spelling a V–$vii^{\circ 6}/V$–V^6 dominant expansion



SUMMARY

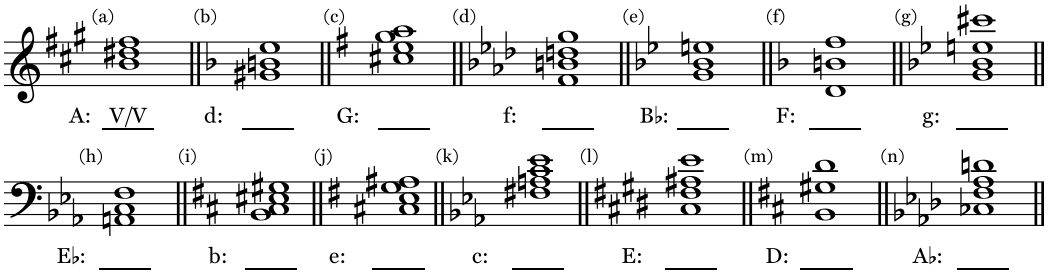
Secondary dominant and leading-tone chords to V possess distinctive features that will help you identify them quickly when you prepare a harmonic analysis.

- The first is their location within the phrase: they often appear immediately after the predominant area, followed by the dominant or cadential $\frac{6}{4}$. As we've seen, they may also be found between two dominants as voice-leading chords expanding the dominant area.
- A second clue is the chromatically altered $\sharp\hat{4}$: if you spot this scale degree, check for its resolution to $\hat{5}$.

Try it #3

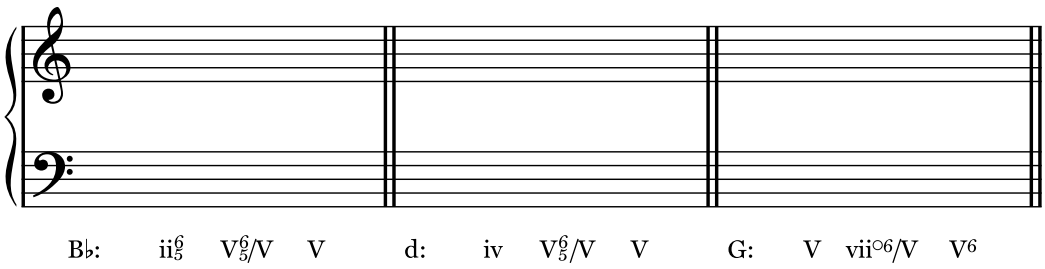
A. For each secondary-function triad or seventh chord notated below, provide Roman numerals in the key specified.

Show answers



B. Write each progression specified below.

Show answers



Did You Know?

There are a number of systems for analyzing secondary dominant and leading-tone chords. You have already seen bracket notation, where the key of the tonicization is given below a horizontal bracket:

$$\underbrace{\text{ii}^{6}_{5}\ \text{V}^{6}_{4}\text{-}^{5}_{3}\ \text{I}}_{\text{V}}$$

Other systems you may encounter are those used by Allen Forte in *Tonal Harmony in Concept and Practice*, and by Edward Aldwell and Carl Schachter in *Harmony and Voice Leading*. Forte simply encloses the secondary-function chord within vertical square brackets: V/V would be [V]. Aldwell and Schachter use a small curved arrow beneath the secondary dominant that points to the chord of resolution, V$\overset{\frown}{\text{V}}$.

German music theorists use an analytical symbol invented by nineteenth-century music theorist Hugo Riemann, two Ds (for "dominant") interlocked: ⅅ. Our symbol V/V represents the same concept shown by this "D of D" (dominant of the dominant).

TERMS YOU SHOULD KNOW

applied chord
chromatic voice exchange
cross relation
modulation
secondary dominant
secondary leading-tone chord
temporary tonic
tonicization
tonicized half cadence

QUESTIONS FOR REVIEW

1. Where are secondary dominants used? secondary leading-tone chords?
2. What do you need to remember when spelling secondary dominants? secondary leading-tone chords?
3. What are the special voice-leading guidelines for resolving secondary dominant chords? secondary leading-tone chords?
4. Under what circumstances are cross relations permitted in common-practice style?
5. In music for your own instrument, find two examples of secondary dominants (in two different pieces or keys). What guidelines can help you scan the score and find them quickly?

Know It? Show It!

- **Focus** by working through the tutorials.
- **Learn** with InQuizitive.
- **Apply** what you've learned to complete the workbook assignments..

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21 Tonicizing Scale Degrees Other Than V

Outline

Secondary-function chords within the basic phrase
- Identifying secondary dominant and leading-tone chords

Secondary-function chords in musical contexts
- Tonicizing harmonies within a phrase
- Providing a temporary harmonic diversion
- Creating forward momentum
- Evading an expected resolution
- Text painting

Spelling secondary dominant and leading-tone chords

Resolving secondary dominant and leading-tone chords
- Irregular and deceptive resolutions

Secondary dominants in sequences

Overview

In this chapter, we examine secondary dominant and leading-tone chords that tonicize harmonies other than V. We also consider how these chords fit within the basic phrase model and how to interpret them in performance.

Repertoire

Johann Sebastian Bach
- "Es ist gewisslich an der Zeit" ("It Is Certainly the Time," Chorale No. 260)
- Prelude in C Major, from *The Well-Tempered Clavier*, Book I

Ludwig van Beethoven, Piano Sonata in C Minor, Op. 13 (*Pathétique*), mvt. 2

Scott Joplin, "Solace"

Alan Menken and Tim Rice, "A Whole New World," from *Aladdin*

Wolfgang Amadeus Mozart
- Piano Sonata in D Major, K. 284, mvt. 3
- *Variations on "Ah, vous dirai-je Maman"*

Robert Schumann, "Ich grolle nicht" ("I Bear No Grudge"), from *Dichterliebe* (*The Poet's Love*)

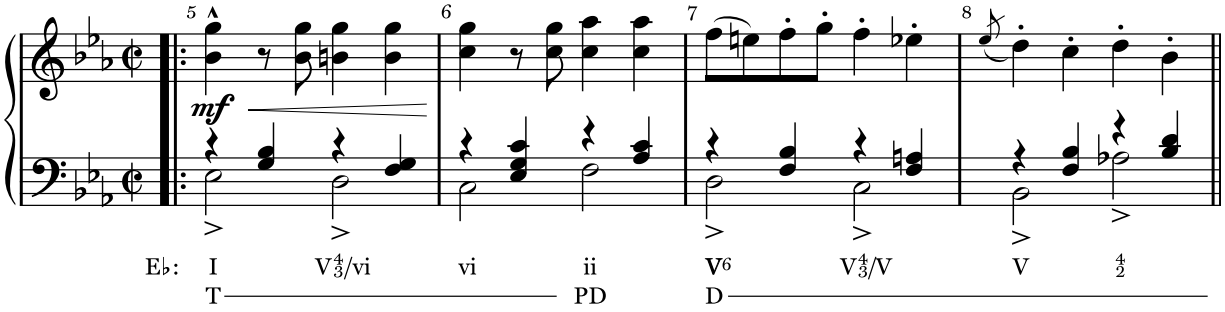
John Philip Sousa, "The Stars and Stripes Forever"

Secondary-Function Chords Within the Basic Phrase

Having learned how to tonicize V in Chapter 20, we now expand that concept to tonicize other scale-degree triads. These new chords serve the same purpose: to intensify the chords to which they resolve.

Listen to measures 5–8 of "The Stars and Stripes Forever," and consider the function of the chromatic tones. Are they embellishing tones, or do they change the chord quality and function?

EXAMPLE 21.1: Sousa, "The Stars and Stripes Forever," mm. 5–8



Several chromatic alterations stand out: the B♮ in measure 5, the E♮ and E♭ in measure 7, and the A♮ and A♭ in measures 7 and 8. The E♮5 in measure 7 is a chromatic neighbor tone, which has no effect on chord quality or function; it simply embellishes the melody. Likewise, you may have heard the B♮4 in the alto of measure 5 as a chromatic passing tone, but this inflection of B♭ to B♮ does change the chord quality: it creates a dominant seventh (G-B♮-D-F), rather than the diatonic G–B♭–D–F, and that usually signals a secondary dominant function. Here the B♮ acts as a temporary leading tone to C (6̂), and the harmony

functions as V$^4_3$/vi. The A♮3 in measure 7 likewise serves as temporary leading tone to B♭ ($\hat{5}$); its voice-leading is like a chromatic lower neighbor tone to the repeated B♭3s in the tenor.

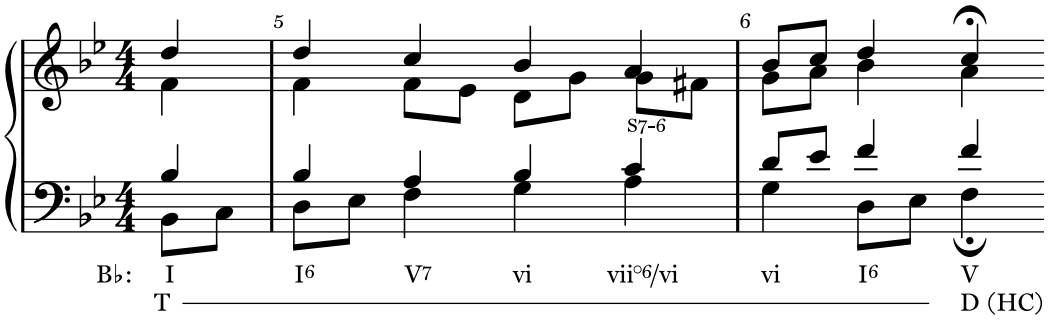
The secondary dominants in the Sousa example elaborate the basic progression I–vi–ii–V: the V$^4_3$/vi (m. 5) provides a temporary tonicization of vi within the tonic area, and the V$^4_3$/V (m. 7) strengthens the half cadence (m. 8) by prolonging the dominant area. That both secondary dominants in this passage appear in second inversion allows a smooth descending bass line and stepwise connections in most voice parts. Stepwise voice-leading is typical of chromatic chords and, in particular, of inverted secondary dominants.

KEY CONCEPT Most triads (other than the tonic) may be tonicized by their own dominant or leading-tone chord.

- In major keys, triads that may be tonicized are ii, iii, IV, V, and vi (iii is less common).
- In minor keys, they are III, iv (or IV), V (or v), VI, and VII (VII is less common).
- Only major or minor triads may be tonicized, because they represent major or minor keys; diminished or augmented triads cannot be tonicized.

Listen to Example 21.2, or sing it with your class, and consider the role of the chromatic tone F♯4 in measure 5.

EXAMPLE 21.2: Bach, "Es ist gewisslich an der Zeit," mm. 5–6



This F♯, again signaling a secondary-function chord, acts as a temporary leading tone to G, the submediant in B♭. Bach expressively embellishes the chord with a 7–6 (G–F♯) suspension. Its function within the basic phrase is to expand the submediant harmony (acting as a tonic substitute) within the tonic area: vi–vii°6/vi–vi. In sum, the tonic area of the phrase moves from I to the prolonged vi and back to I6, before moving to the dominant area and a half cadence.

This short phrase illustrates two important points. First, a tonicization may span more than just two chords: vi–vii°6/vi–vi. Second, the contextual analysis here reveals a long tonic area; this means that the V chord in measure 5 is embellishing, a very different function from the one in measure 6. In performance, you might aim for the cadential arrival on V in measure 6, and consider the first dominant as a less important connector between I and vi.

The most common role of a secondary dominant or leading-tone chord is to highlight an individual harmony within a basic phrase progression, while leaving the overall direction of the phrase unchanged.

Identifying Secondary Dominant and Leading-Tone Chords

If you recognize the sound of dominant-to-tonic motion, it should be easy to locate a secondary dominant or leading-tone chord by ear: it will simply sound like a dominant-function

harmony moving to a temporary I or i. In particular, you will hear half-step voice-leading, as the temporary leading tone moves to its temporary tonic.

KEY CONCEPT One quick way to spot a secondary dominant or leading-tone chord in a score is to scan for chromatically altered pitches. Then confirm your analysis by checking the chord's quality and resolution.

- A raised third in a minor triad or seventh chord can indicate a temporary leading tone, as can a raised root that transforms a major triad into a diminished one.
- A lowered pitch may signal the lowered seventh of a dominant seventh or diminished seventh chord.

In Example 21.3, part (a) shows the temporary leading tone to each scale-degree triad—which can function as the third of a secondary dominant seventh chord (part b), or as the root of a secondary leading-tone chord (part c). Remember that secondary dominant triads (without the seventh) are possible as well, as are secondary leading-tone triads and, less often, half-diminished sevenths.

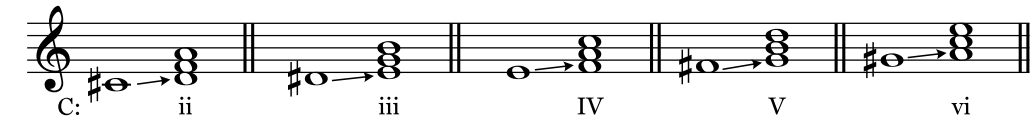
In major keys, all secondary dominant seventh chords include at least one chromatically altered pitch, usually the raised third. Only one secondary dominant triad is already major in its diatonic form: V/IV (C-E-G in C major). Since C-E-G is the tonic in C major, it won't function as a secondary dominant without an added minor seventh (part b). This seventh makes V^7/IV the only secondary dominant in major keys with a chromatically lowered pitch; and you need the seventh here, otherwise V/IV–IV (C-E-G to F-A-C in C major) will simply sound like I–IV. As part (c) shows, to spell some diminished seventh chords in major keys, you must include two different accidentals: a sharp or natural (usually on the root), and a

flat (usually on the seventh).

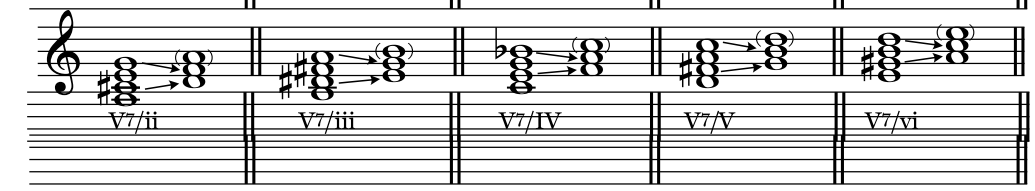
EXAMPLE 21.3: Spelling secondary-function chords

C major

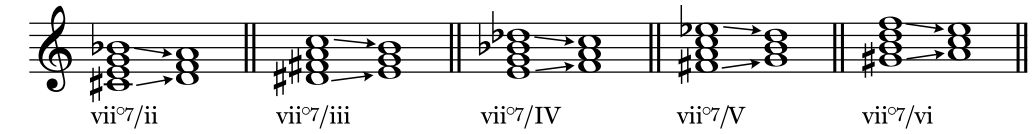
(a) Secondary leading tones



(b) Secondary dominant seventh chords

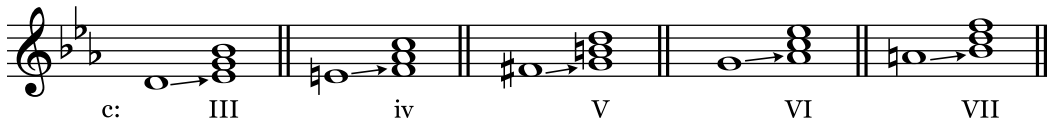


(c) Secondary leading-tone seventh chords

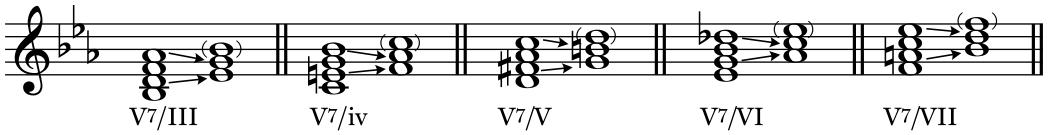


C minor

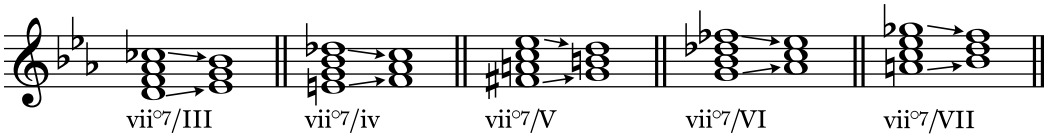
(d) Secondary leading tones



(e) Secondary dominant seventh chords



(f) Secondary leading-tone seventh chords



In minor keys (parts d–f), as in major, diminished triads (ii° and vii°) can't be tonicized. The succession V^7/III–III is particularly characteristic of minor-key compositions, as it requires no accidentals and fleetingly tonicizes the relative major. Like V/IV in major keys, the secondary-dominant function of these chords becomes clear only when the minor seventh is added to the triad (part e). In analysis, if there is no seventh, these chord pairs are usually labeled with their diatonic Roman numerals: III–VI (rather than V/VI–VI) and VII–III (rather than V/III–III).

Occasionally you will see a secondary leading-tone chord that is half-diminished; this is less common, used only to tonicize a major-quality triad.

KEY CONCEPT To identify a secondary dominant or leading-tone chord:

1. Look for a chromatically altered pitch, then determine how it changes a chord's quality.
2. If the altered chord is a major triad or dominant seventh, check the following chord. If its root is a perfect fifth below (or a perfect fourth above) the root of the altered chord, you have identified a secondary dominant.
3. If the altered chord is a diminished triad or fully diminished

seventh (or, less often, a half-diminished seventh), check the following chord. If its root is a half step above the root of the altered chord, you have identified a secondary leading-tone chord.

4. Sometimes a secondary-function chord (such as V^7/III in minor) will not include a chromatically altered pitch. In that case, check the root of the following chord (as in steps 2 and 3) to determine the chord's function.

Try it #1

Identify whether each chord below is a secondary V7 (Mm7) or vii$^{\circ 7}$ (dim 7). Then give its Roman numeral analysis in the key specified.

Show answers

		KEY	ROMAN NUMERAL
(1)		D major	vii$^{\circ 7}$/IV
(2)		G major	
(3)		F major	
(4)		C♯ major	
(5)		C minor	
(6)		F minor	

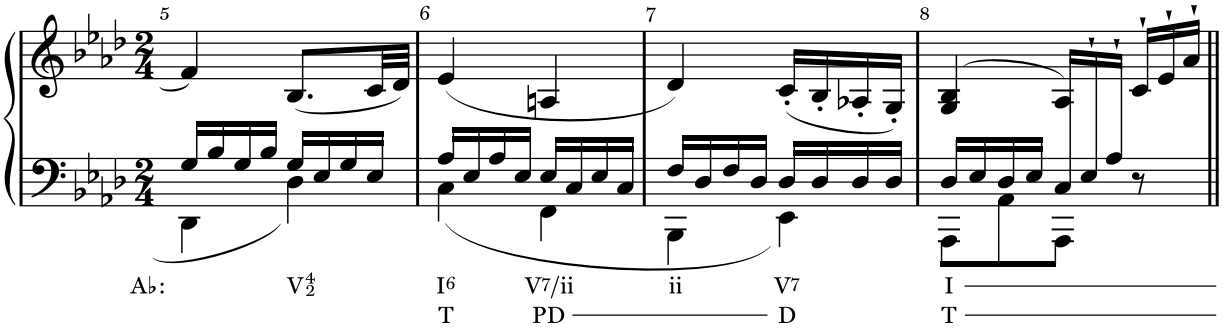
Secondary-Function Chords in Musical Contexts

Secondary dominant and leading-tone chords may (1) intensify a diatonic harmony, (2) provide a temporary harmonic diversion, (3) create forward momentum in a passage, (4) evade an expected resolution, or (5) contribute to text painting. When you prepare a piece for performance, you may want to identify which role each such chord plays in order to help shape your performance.

Tonicizing Harmonies Within a Phrase

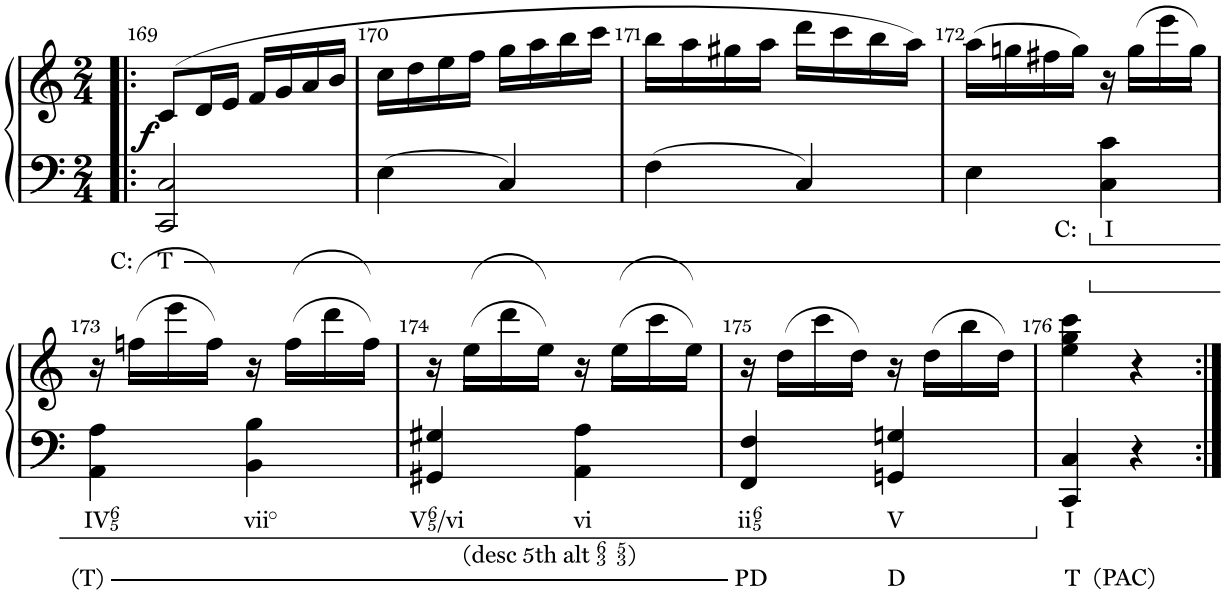
Listen to the excerpt from Beethoven's *Pathétique* Sonata given in Example 21.4. The predominant area in this T–PD–D–T phrase has been expanded by a secondary dominant seventh chord. The A♮ in the melody (m. 6) creates a striking F-A♮-C-E♭ sonority that functions as a secondary dominant to the predominant ii. Because the secondary dominant belongs to the predominant area, the PD label is placed on the second beat of measure 6 rather than on the ii of measure 7.

EXAMPLE 21.4: Beethoven, *Pathétique* Sonata, mvt. 2, mm. 5–8



Now listen to the Mozart variation shown in Example 21.5. The phrase opens with a tonic expansion, moves to a descending-fifth sequence, alternating seventh chords (in $\frac{6}{5}$ position) and triads, and closes with PD–D–T and a PAC. The diatonic version of the sequence in root position would be I–IV^7–vii$^\circ$–iii^7–vi–ii^7–V–I; the iii^7 in measure 174 (beat 1), though, has been converted to a V$^6_5$/vi by changing the chord quality to Mm7. This tonicization of a triad within a sequence does not interrupt the sequence's motion, and can in fact intensify its effect.

EXAMPLE 21.5: Mozart, *Variations on "Ah, vous dirai-je Maman,"* Variation VII, mm. 169–176

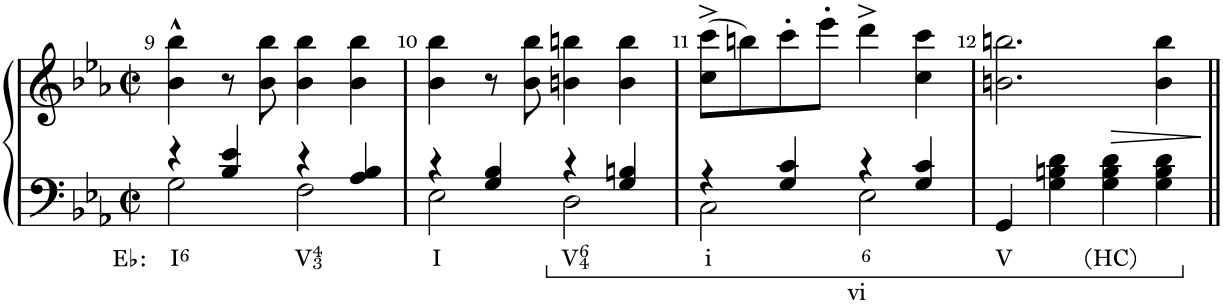


Providing a Temporary Harmonic Diversion

Now listen to a second excerpt from "The Stars and Stripes Forever" to hear another use of secondary-function chords. Example 21.6 begins by expanding the tonic in E♭ major with a I^6–V$^4_3$–I progression, then ends with a HC in measure 12–but not

in the primary key of the piece. The cadence tonicizes vi (C minor), though only briefly; the following measures immediately return to E♭ major. We use bracket notation here since several chords fall within the tonicized area (vi).

EXAMPLE 21.6: Sousa, "The Stars and Stripes Forever," mm. 9–12

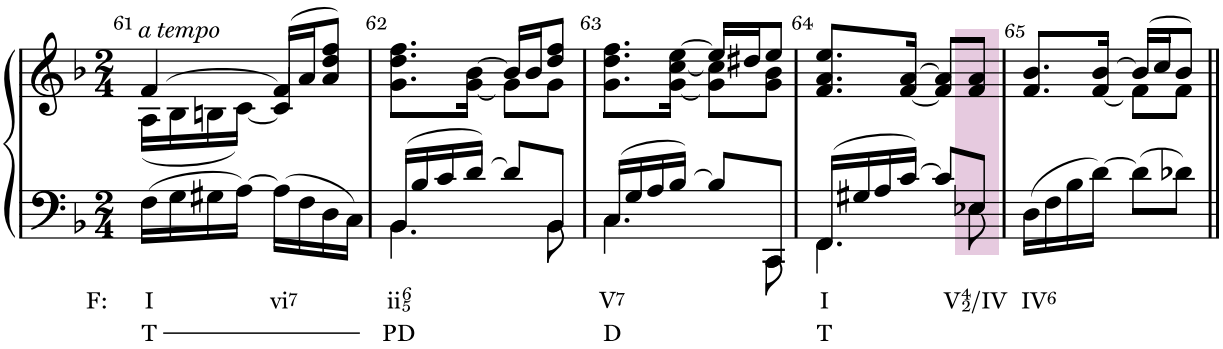


The secondary dominant V$^{4}_{3}$/vi heard briefly in measure 5, beat 2 (Example 21.1), returns here to add a bit of color and harmonic interest. The B♮ that colored measure 5 appears first as a chromatic passing tone (m. 10), then as a chromatic neighbor tone (m. 11), and finally as the melodic goal of the phrase (m. 12). In this passage, the secondary dominants do not elaborate a basic phrase progression—instead, they temporarily sidetrack the motion from tonic to dominant.

Creating Forward Momentum

Secondary dominants are a familiar feature of Scott Joplin's ragtime piano pieces. In Example 21.7, the basic phrase progression to measure 64 is I–vi^{7}–ii$^{6}_{5}$–V^{7}–I (T–PD–D–T).

EXAMPLE 21.7: Joplin, "Solace," mm. 61–65



This phrase sounds complete, yet the last chord of measure 64 then pushes forward. The shaded F-A-C-E♭ chord is a secondary dominant to IV, in this case in third inversion ($^{4}_{2}$), resolving in normal fashion to a IV^{6}—the temporary leading tone (A4) moves up, and the seventh of the chord (E♭3) down. This chord intensifies the IV^{6} and creates forward motion toward the phrase's eventual authentic cadence in measure 68.

As a performer, you might focus on the intensity of the secondary dominant harmonies found at the end of many four-bar units in this rag. Be sure to follow Joplin's performance indications, lengthening the sonorities that are notated with fermatas, and continuing *a tempo* after each fermata, even when it is not marked. This will propel each basic phrase forward to its cadence, in preparation for the next dominant seventh anacrusis. You may also want to experiment with "voicing out" the tendency tones. Try playing each anacrusis in such a way that you really hear the (temporary) leading tone resolving up and the chordal seventh resolving down.

Try it #2

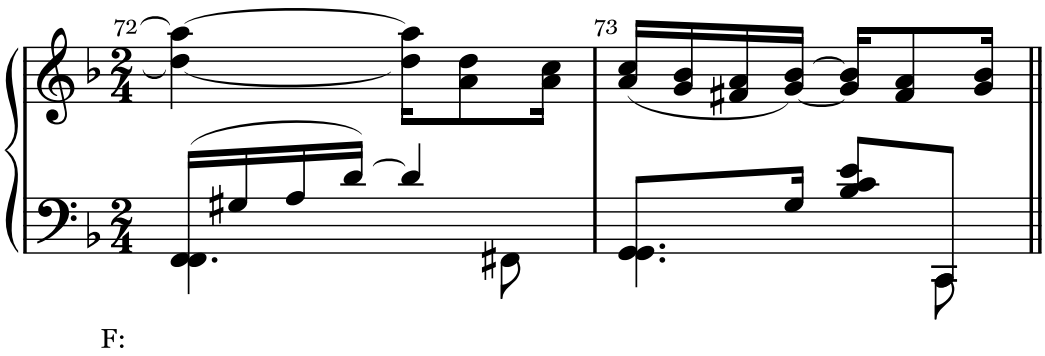
Show answers

- Find a secondary dominant in the passage below. Where is it? measure _____, beat _____ What is the Roman numeral? _____

- What are the tendency tones? _____ and _____
- Do they resolve correctly? _____

Joplin, "Solace," mm. 72–73

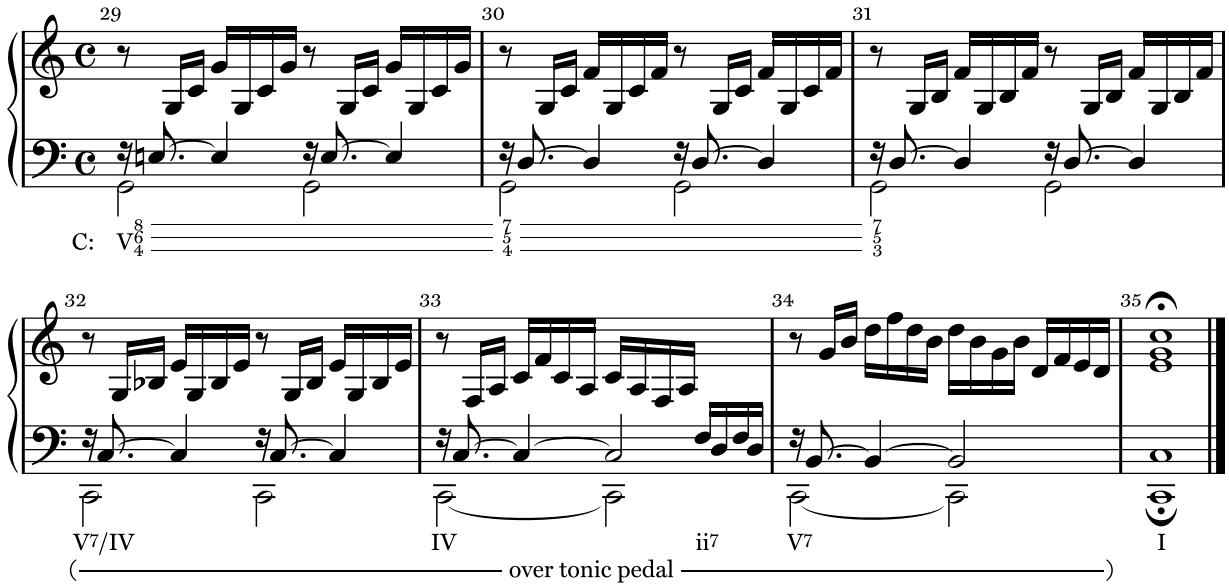
Show answers



Evading an Expected Resolution

We have already looked at ways of evading or weakening a cadence after a strong V or V^7: for example, by using a deceptive cadence or resolving to an inverted tonic (or I^7). Secondary-function chords may also be called on to evade an expected cadence or temporarily redirect a phrase. As an example, listen to a passage from Bach's C Major Prelude (Example 21.8), focusing on measures 30–32.

EXAMPLE 21.8: Bach, Prelude in C Major, mm. 29–35

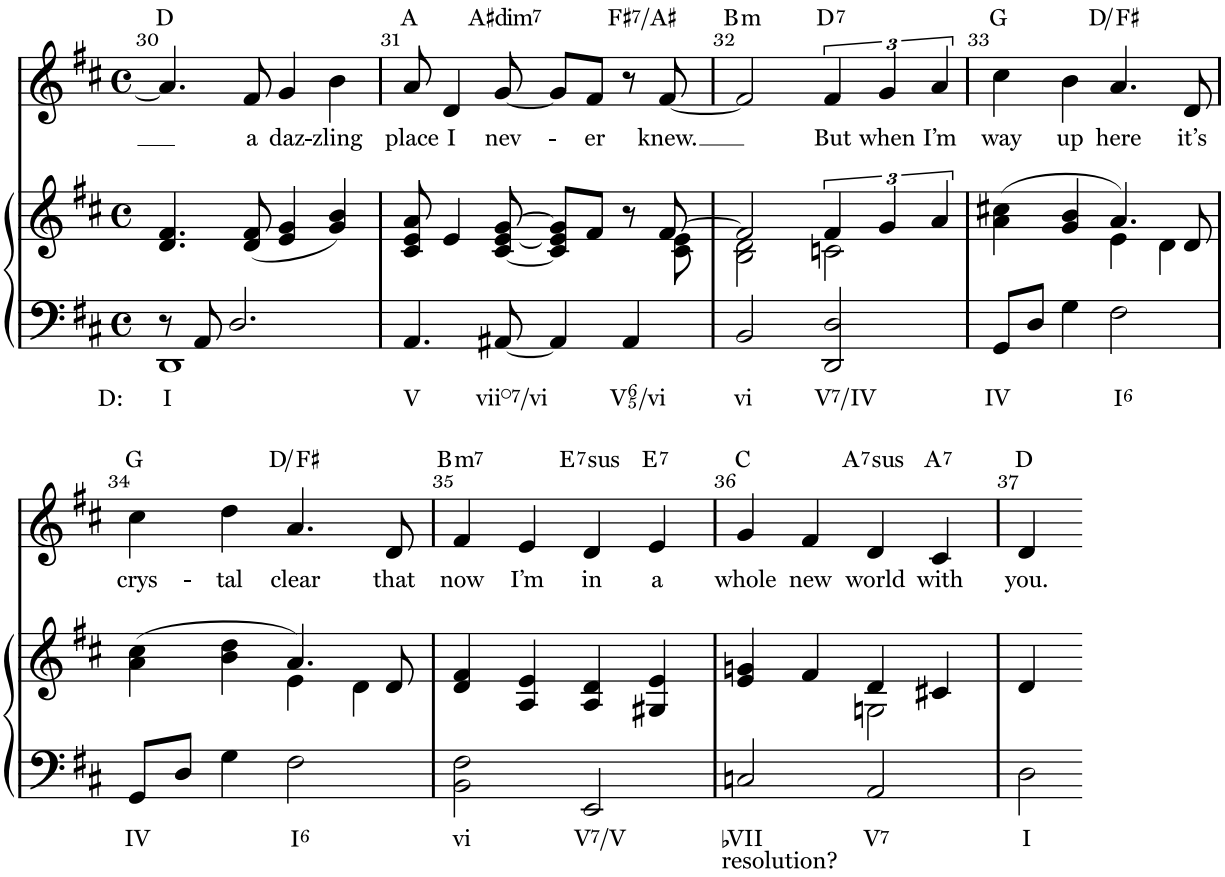


Measure 29 initiates a cadential $\frac{6}{4}$, resolving to V^7 (with a 4–3 suspension) in measures 30–31. At this moment, we expect V^7 to resolve to I, to bring the prelude to its close. Instead, Bach adds a crucial B♭, that transforms the tonic triad into a V^7/IV (m. 32), resolving deceptively and delaying the final close by another three measures, all over a stately tonic pedal point.

In performance, you might focus on the voice-leading aspects that help to thwart the listener's expectations. You could insert a slight delay moving into measure 32—as though this were the final cadence. Once the "deception" of the secondary dominant is clear, the last three measures can unfold to the prelude's ultimate conclusion.

Text Painting

In songs and choral works, secondary-function chords sometimes play a role in text painting, the musical depiction of images found in the words. Example 21.9 shows a deceptive resolution of a secondary dominant in a song from *Aladdin*, sung by the character Jasmine about the "whole new world" she is discovering.

EXAMPLE 21.9: Menken and Rice, “A Whole New World,” mm. 30–37

D A A♯dim7 F♯7/A♯ Bm D7 G D/F♯
30 31 32 33
___ a daz-zling place I nev - er knew.___ But when I'm way up here it's
D: I V vii°7/vi V6/5/vi vi V7/IV IV I6
G D/F♯ Bm7 E7sus E7 C A7sus A7 D
34 35 36 37
crys - tal clear that now I'm in a whole new world with you.
IV I6 vi V7/V ♭VII V7 I
resolution?

The words “never knew” (m. 31) are highlighted by secondary leading-tone and dominant seventh chords to vi, which arrives on beat 1 of measure 32, making a deceptive cadence that brings out the foreignness of the world Jasmine is now seeing. Another secondary dominant in 32 (on “But when I’m”) combines with the rhythmic impetus of the quarter-note triplets to push forward harmonically, emphasizing that she’s “way up here,” on the highest note she has sung yet in the phrase.

The final text-painting touch in this passage is the setting of “whole new world” in measure 36. The chord on the downbeat

is preceded by a V^7/V (“in a”); yet the first chord in 36 temporarily evades the expected dominant. We will learn more about this harmonic choice—a ♭VII chord—in Chapter 26. For now, observe how combining the V^7/V with the unusual resolution to ♭VII highlights the strangeness of this “whole new world.”

Spelling Secondary Dominant and Leading-Tone Chords

Now that you have seen and heard what secondary dominant and leading-tone chords can do, it is time to write some.

KEY CONCEPT Example 21.10 illustrates the steps in spelling a secondary dominant seventh chord.

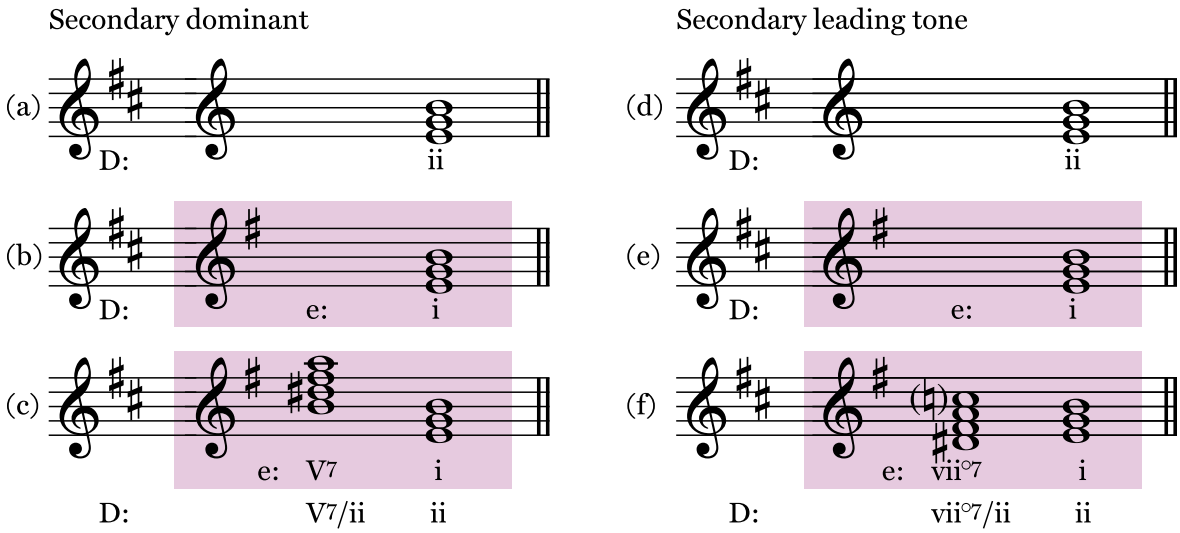
1. Write the triad it tonicizes. For example, if you want to write a V^7/ii in the key of D major, first write the ii chord (E–G–B), leaving a space before it (part a).
2. Imagine the key of the triad you are tonicizing—here, the key of ii, or E minor, with one sharp (F♯) in the key signature (part b).
3. Spell a V^7 in that key (part c): V^7 in E minor is B–D♯–F♯–A.

To spell a secondary leading-tone chord:

Follow the same procedure, but write $vii^{\circ 7}$–i in the tonicized key instead (parts d–f). Think of the root a diatonic half step below the tonicized chord.

You can adapt these guidelines for triads, leaving out the seventh, or for the $vii^{\circ 7}$ (presuming that this chord precedes a major triad) by altering the quality of the seventh.

EXAMPLE 21.10: Procedure for writing secondary dominant and leading-tone chords



Another Way

Another way to spell secondary dominants quickly is to imagine them as "altered" diatonic chords, following the chart below (in C major). Add whatever accidentals are necessary to create a Mm7 quality. Use this method as a shortcut for spelling only; in analysis, you should write V^7/IV, not I^7, to capture more accurately how the chord functions.

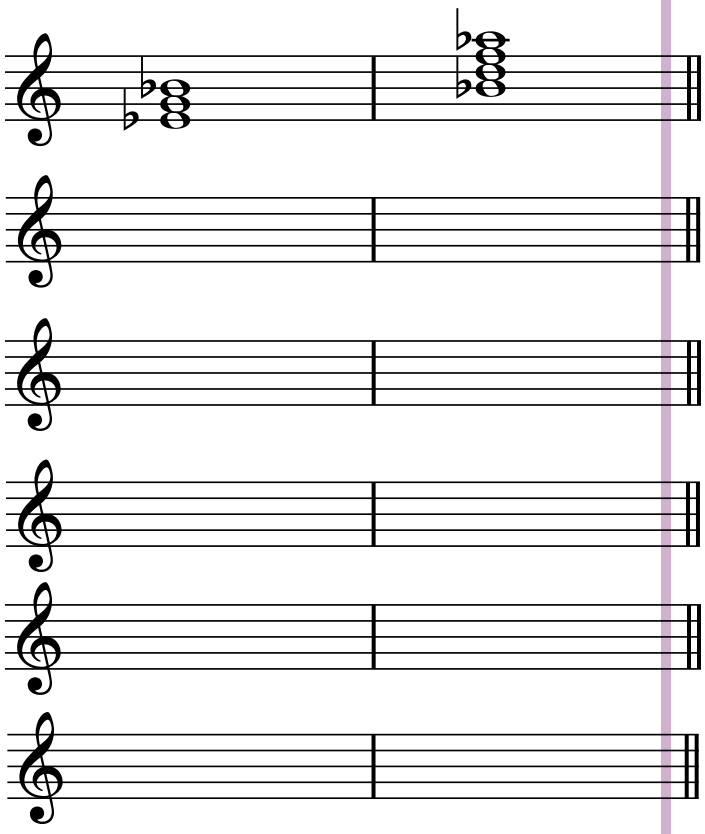
TO MAKE A . . .	START WITH . . .	ALTER QUALITY TO Mm7
V^7/IV →	I^7 (C-E-G-B) →	I7 (C-E-G-B♭)
V^7/V →	ii^7 (D-F-A-C) →	II7 (D-F♯-A-C)
V^7/vi →	iii^7 (E-G-B-D) →	III7 (E-G♯-B-D)
V^7/ii →	vi^7 (A-C-E-G) →	VI7 (A-C♯-E-G)
V^7/iii →	$vii^{ø7}$ (B-D-F-A) →	VII7 (B-D♯-F♯-A)

Try it #3

For each key below, write the tonicized chord in the first Show

measure, then the secondary dominant or leading-tone chord in the second measure. Use whole notes.

answers

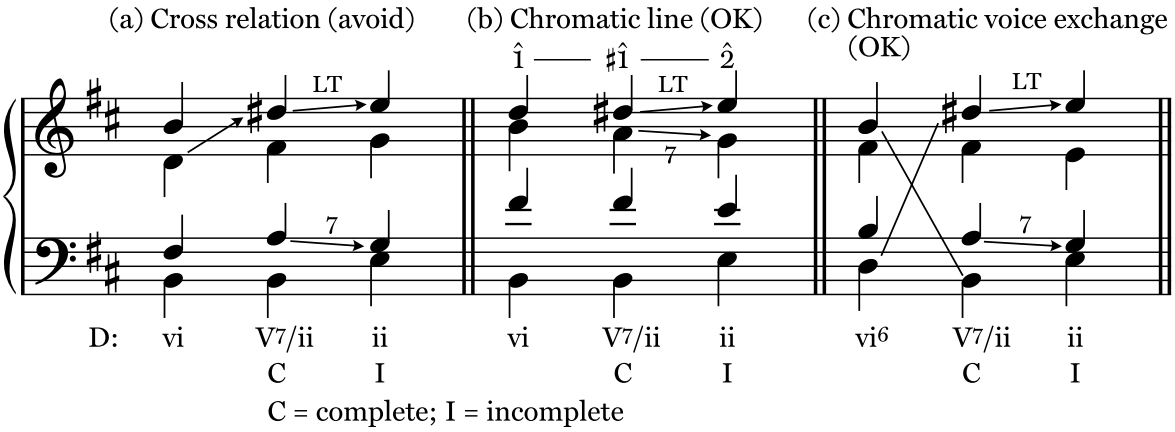
	KEY	ROMAN NUMERAL	TONICIZED CHORD	SECONDARY DOMINANT
(1)	B♭ major	V7/IV		
(2)	F♯ minor	vii°7/III		
(3)	A major	V7/ii		
(4)	G major	vii°7/vi		
(5)	E♭ major	V7/vi		
(6)	C minor	V7/V		

Resolving Secondary Dominant and Leading-Tone Chords

As we have seen, secondary dominant and leading-tone chords normally resolve just like their diatonic counterparts.

KEY CONCEPT To resolve a secondary dominant or leading-tone chord (Example 21.11):

- Move the temporary leading tone up, and the chordal seventh down. (Only when a secondary dominant resolves to a seventh chord may the temporary leading tone resolve down.)
- When a root-position secondary V^7 chord resolves to a root-position triad, make one chord complete and one incomplete (leave out the fifth) to avoid parallels.
- Never double the temporary leading tone or the seventh of the chord.
- If the temporary leading tone is preceded by a chord that contains the same scale degree in its unaltered (diatonic) form, either keep the chromatic tone in the same voice (for instance, $\hat{1}$–$\sharp\hat{1}$–$\hat{2}$; part b), or write a chromatic voice exchange (part c). You may skip or leap to the temporary leading tone in the bass voice.
- Aim for smooth voice-leading connections (by step or common tone), and follow the usual procedure of checking for parallel fifths and octaves.

EXAMPLE 21.11: Voice-leading guidelines

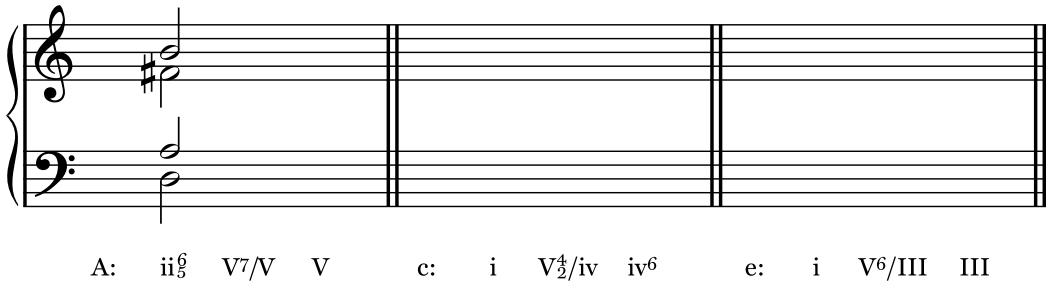

(a) Cross relation (avoid)
(b) Chromatic line (OK)
(c) Chromatic voice exchange (OK)
LT
7
D: vi V7/ii ii vi V7/ii ii vi6 V7/ii ii
C I C I C I
C = complete; I = incomplete

In analysis, listen carefully for the point of resolution (this is especially helpful when resolutions are delayed in multiple voices by suspensions, passing tones, and retardations), and know what the expected resolution should be, so that you can scan ahead in the score for its arrival.

Try it #4

Prepare and resolve each of the following secondary dominant chords. Resolve all tendency tones correctly, and avoid cross-relations between voices.

Show answers



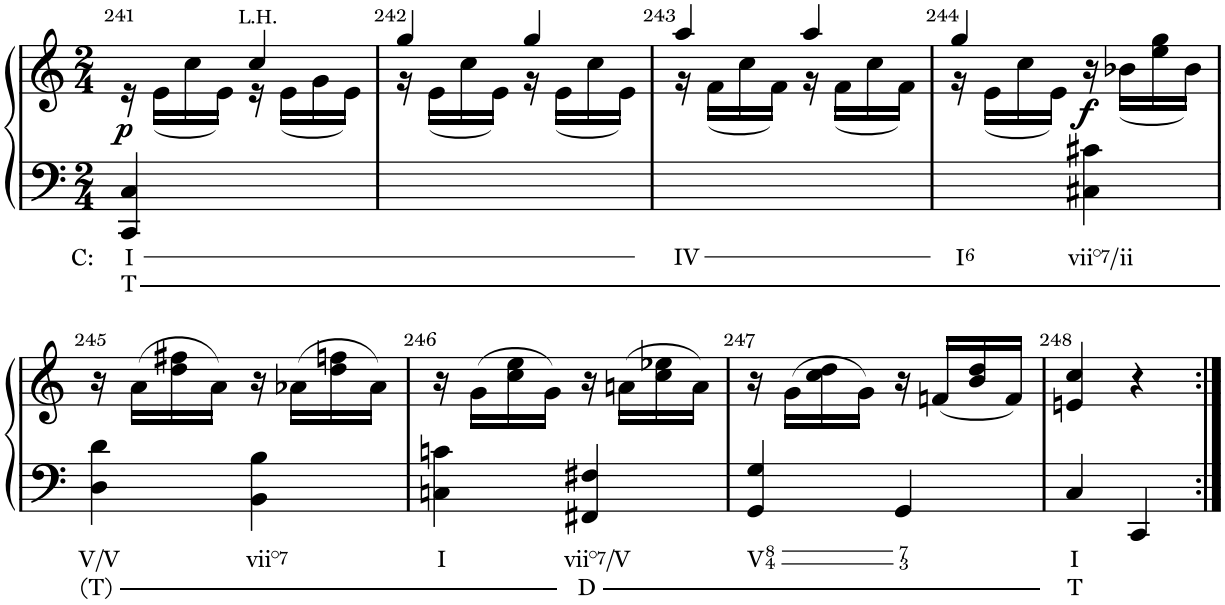
Irregular and Deceptive Resolutions

Although the quality of secondary dominant and leading-tone chords strongly implies a particular resolution, sometimes composers do not resolve these chords exactly as you expect.

Instead, they may write an **irregular** or **deceptive resolution**. Such resolutions can add drama and intensity to a phrase.

Listen to the Mozart Variation in Example 21.12, then focus on the passage in measures 244–248. In this passage, the outer voices move conventionally, but the inner voices create some unexpected harmonies.

EXAMPLE 21.12: Mozart, V*ariations*, Variation X, mm. 241–248

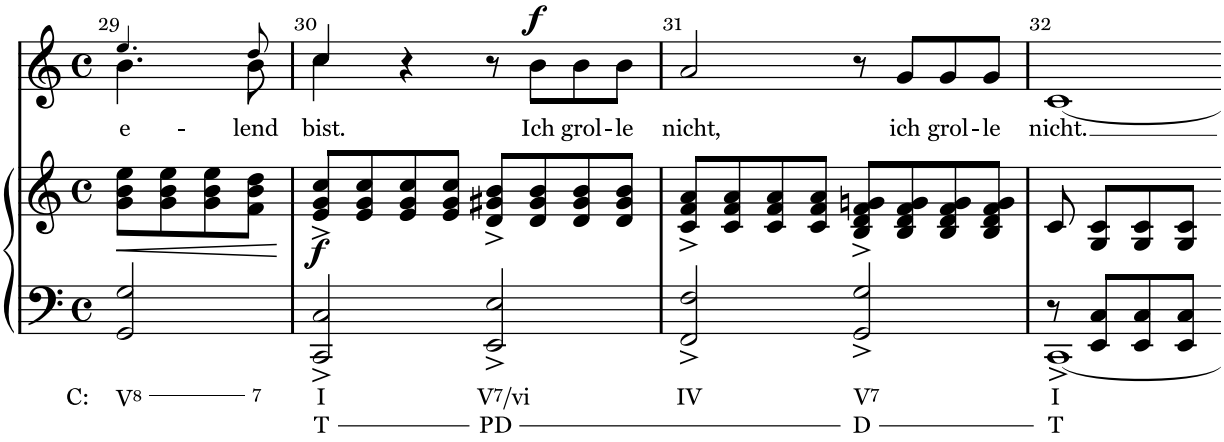


In measure 245, the expected ii on beat 1 is replaced with V/V (a triad with the correct root but an altered chord quality), and the expected V on beat 2 is replaced by vii$^{\circ 7}$ (a chord with the same function that shares three common tones with V^7, but not the expected root). Both are irregular resolutions of secondary applied chords. The F♯5 (temporary leading tone) in the V/V is pulled down by the descending chromatic line in the piano melody. (This is the usual voice-leading when a secondary dominant resolves to a seventh chord.) Both the vii$^{\circ 7}$ and vii$^{\circ 7}$/V chords in measures 245 and 246 resolve as

expected, to I and V respectively, and in each case there are strong voice-leading connections that make these chord choices work.

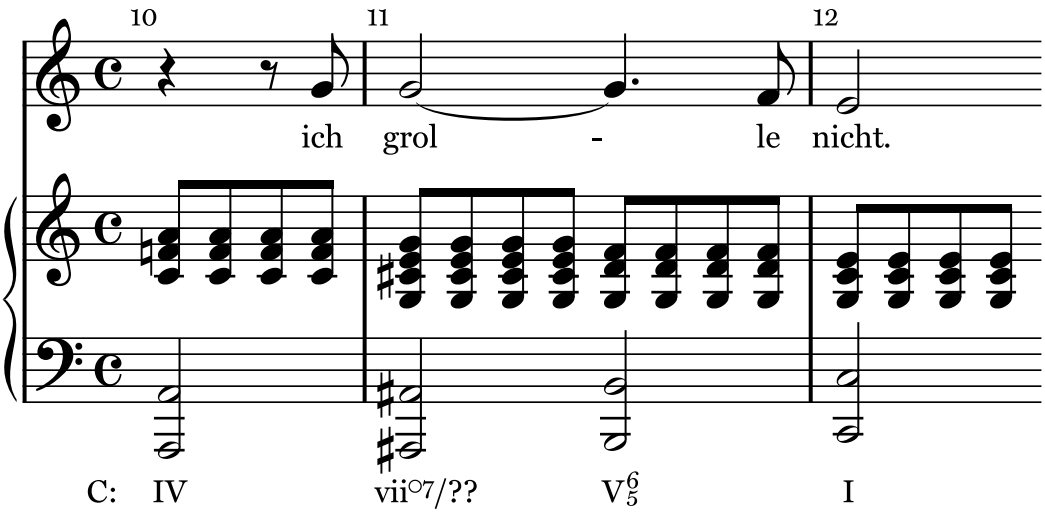
In "A Whole New World" (Example 21.9), the deceptive resolution in measures 35–36 reflects a magical transformation, while in both Examples 21.13 and 21.14 the deceptive resolutions make audible the singer's despair over a lost love.

EXAMPLE 21.13: Schumann, "Ich grolle nicht," mm. 29–32



Translation: … [you] are miserable. I bear no grudge.

EXAMPLE 21.14: Schumann, "Ich grolle nicht," mm. 10–12



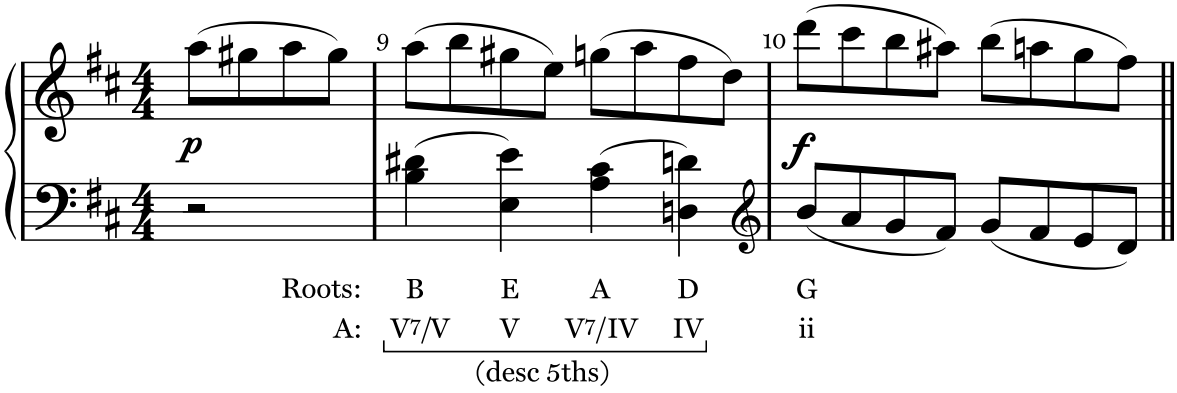
The deceptive resolution in measure 12 of Example 21.14 is especially surprising: here the secondary leading-tone chord A♯-C♯-E-G (m. 11), in C major, implies vii°7/vii°! Since it is not possible to tonicize vii°, this "impossible" secondary leading-tone chord resolves deceptively to V^6_5, which shares the correct bass note (B) and two other chord members with the expected B triad. Perhaps this deception represents musically how deeply the protagonist feels he has been deceived.

Passages like these are fairly common in highly chromatic voice-leading. To analyze, carefully determine each chord's quality, then compare the actual resolution in the music with the expected one. With that information, you should be able to explain each chord's resolution. Your Roman numerals will show irregular resolutions automatically. For example, if you write V^7/IV–ii^6, it's clear that the expected IV chord is replaced with a ii^6 instead.

Secondary Dominants in Sequences

You might also find secondary-function chords elaborating a sequence, in alternation with triads or as all dominant sevenths in a descending-fifth sequence—creating a **chromatic sequence**. Composers may use a portion of a chromatic sequence to move between functional areas or use a complete sequence to prolong the tonic area. As an example of the former, listen to Example 21.15, a passage in A major.

EXAMPLE 21.15: Mozart, Piano Sonata in D Major, mvt. 3, mm. 8–10



If this were a diatonic sequence in A, the progression would be ii^7–V–I^7–IV, but Mozart has changed the ii^7 chord to a dominant seventh quality (B-D♯-A, leaving out F♯). This sets up a pattern of alternating secondary dominant sevenths, a chromatic descending-fifth sequence.

KEY CONCEPT In the most common type of chromatic sequence, the descending-fifth sequence, dominant seventh chords are substituted for all or some of the chords (usually every

other chord). The sequence typically features root-position chords, but may also include inversions.

The voice-leading for this type of sequence is the same as for any secondary dominant resolution. In a chain of *all* root-position seventh chords, however, every other chord is incomplete (to avoid parallels). The chordal sevenths resolve down by step as expected, but the leading tones also resolve down—pulled downward by the stepwise chromatic line—to become the seventh of the following chord. (We will learn to write chromatic sequences in Chapter 30.)

Did You Know?

Robert Schumann's song "Ich grolle nicht" (from his song cycle *Dichterliebe*) is based on a poem by Heinrich Heine, from his *Lyrisches Intermezzo* (*Lyric Intermezzo*): a set of poems that provide snapshots of the poet's experiences and emotions. Though the text in this song claims that the speaker "bears no grudge" from his/her "love forever lost," the harmonies—deceptively resolved secondary dominant and leading-tone chords—tell a different story. Other elements of the text, including the image of the lover's dark heart (where no light can penetrate) being devoured by a snake, are set by harmonic sequences (see Chapter 19), and still others are highlighted by chromatic harmonies we will consider in later chapters. Such close links between textual meaning and harmonic choices are typical of Romantic-era art songs, and identifying and interpreting these harmonic nuances is essential to an understanding of the meaning of a song.

TERMS YOU SHOULD KNOW

chromatic sequence
cross relation
irregular resolution
secondary dominant
secondary leading-tone chord
temporary tonic
tonicization

QUESTIONS FOR REVIEW

1. Which diatonic chords may be tonicized in a major key? in a minor key? What chords (which quality) may not be tonicized?
2. What roles do secondary dominants typically play in a harmonic progression?
3. What are the steps for finding the root and adding the proper accidentals to spell a secondary dominant chord? to spell a secondary leading-tone chord?
4. What tendency tones need to be resolved in a secondary dominant or leading-tone chord? When may the temporary leading tone resolve down?
5. What are two ways that cross relations can be avoided when a secondary dominant is preceded by its diatonic counterpart?
6. How do you identify irregular resolutions of secondary dominant and leading-tone chords in their Roman numeral analysis?
7. What part-writing guidelines are important to remember when secondary dominants appear in sequences of seventh

chords?

8. In music for your own instrument, find two examples of secondary dominants other than V/V or V^7/V (in two different keys). For each one, examine the context—does it fit within one of the common uses of secondary dominants considered in this chapter? How might understanding its role and resolution in the phrase influence your performance of the passage?

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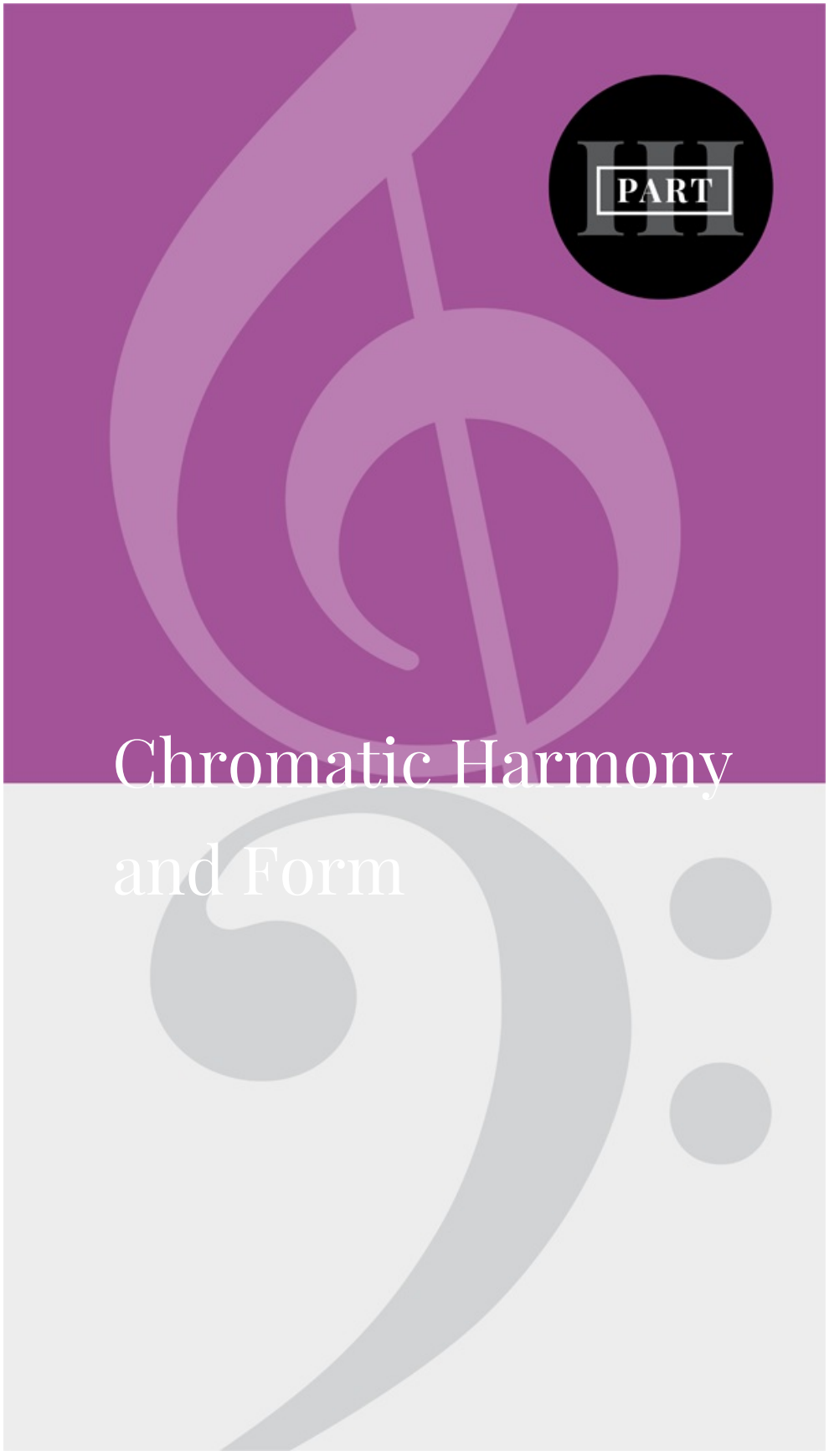


Chromatic Harmony and Form

22 Modulation to Closely Related Keys

Outline

Common pivot-chord modulations
- Modulation or tonicization?
- Modulation from a major key to its dominant
- Modulation from a minor key to its relative major
- Closely related keys

Other pivot-chord modulations
- From a minor key to v
- From a major key to ii, iii, IV, and vi
- Writing a pivot-chord modulation

Direct modulations
- Modulations introduced by secondary dominants

Locating modulations

Modulations in musical contexts
- Harmonizing modulating melodies

Overview

This chapter focuses on modulation—the process of changing from one key to another. We learn to modulate by means of pivot

chords and to determine which keys are closely related. We will also harmonize a melody that changes keys.

Repertoire

Johann Sebastian Bach
- "Er kommt" ("He comes"), from Cantata No. 140, "Wachet auf"
- "O Haupt voll Blut und Wunden" ("O Head, Full of Blood and Wounds," Chorale No. 74)

Muzio Clementi, Sonatina in C Major, Op. 36, No. 1, mvt. 1

Arcangelo Corelli
- Trio Sonata in A Minor, Op. 4, No. 5, Allemanda
- Sonata in D Minor, Op. 4, No. 8, Preludio

Wolfgang Amadeus Mozart, Piano Sonata in D Major, K. 284, mvt. 3

Franz Schubert, "Nur wer die Sehnsucht kennt (Lied der Mignon)" ("Only One Who Knows Longing [Mignon's Song]")

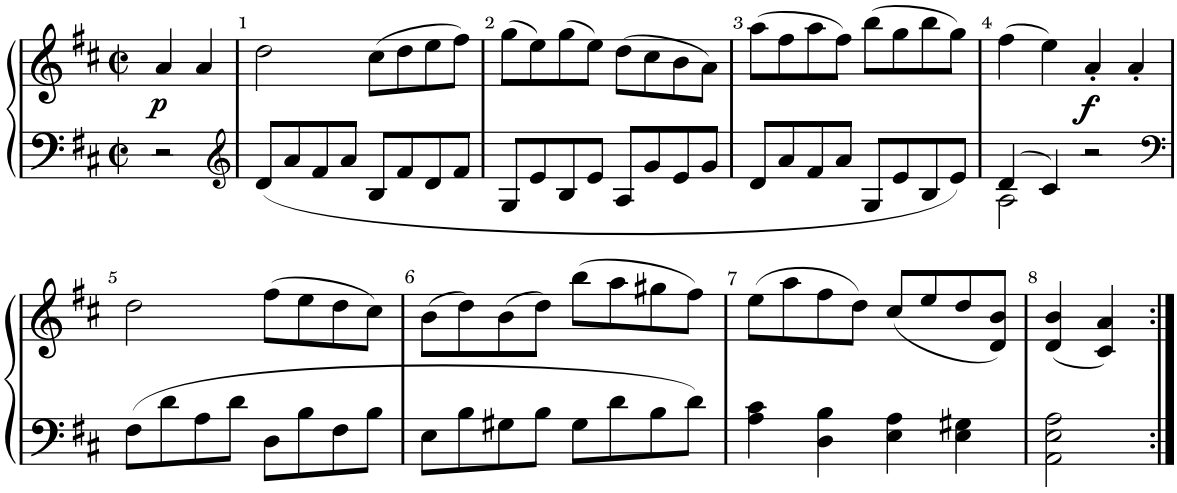
Clara Schumann, *Drei Romanzen*, Op. 21, No. 1

Andrew Lloyd Webber, "Memory," from *Cats*

Common Pivot-Chord Modulations

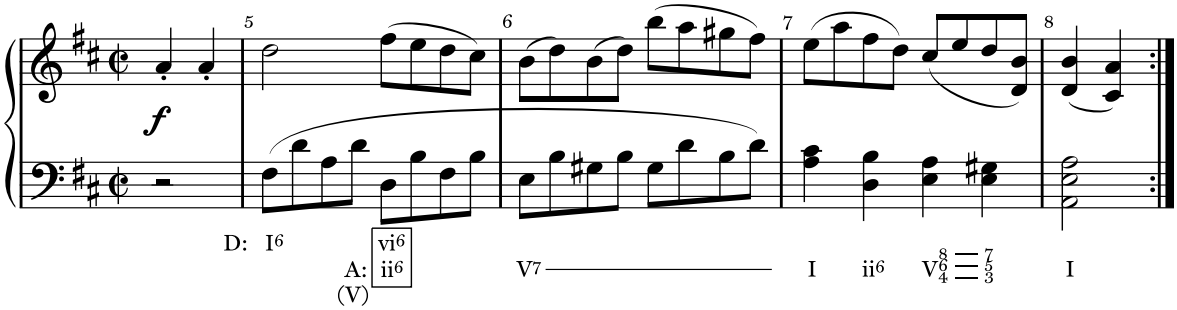
Many common-practice forms, such as binary and sonata forms, rely on harmonic changes to create contrast between sections. Indeed, composers show their ingenuity and artistry by how and where they move between key areas. Some analysts view these different harmonic areas as large-scale tonicizations of harmonies within the tonic key; this approach emphasizes the overall harmonic coherence of the work. Other analysts, however, view structurally significant tonicizations as **modulations**, or changes of key, focusing on how chords function within a local new key and how the new key relates to the tonic key. For purposes of this chapter, we will take the latter approach.

Listen to the opening of the third movement of Mozart's Piano Sonata in D Major, while examining the score in Example 22.1. In Chapters 14 and 15, we analyzed the basic phrase model in measures 1–4. Now look at the phrase that follows (mm. 5–8), to see how the cadences in measures 4 and 8 differ.

EXAMPLE 22.1: Mozart, Piano Sonata in D Major, mvt. 3, mm. 1–8

Both cadences end on an A major triad: the first is a HC in the tonic key (D major); but the second so strongly tonicizes A that it sounds like a PAC in A major, making a modulation to the key of the dominant. The change is so smooth that you may not hear the shift of harmonic focus until the return to D major when measures 1–8 are repeated.

Look carefully at measures 5–6 (Example 22.2). Measure 5 begins with I6 in D major, followed by vi6; then in measure 6, a G♯ is introduced. This ♯$\hat{4}$ could simply indicate a secondary dominant, V7/V, except that the G♯ appears three more times in measures 6 and 7, and the remainder of the phrase functions according to the basic phrase in the key of A major.

EXAMPLE 22.2: Mozart, Piano Sonata in D Major, mvt. 3, mm. 5–8



When a modulation is composed this smoothly, there are often one or more transitional chords mid-phrase that function diatonically in both keys. The vi6 (in D major) on the second half of measure 5 is such a chord: it also functions as ii6 in A major, preparing the entrance of the V7 in A in measure 6 and the subsequent cadence in that key. In general, when vi6 appears outside the context of a sequence or I^{5-6} motion, as here, it may signal a modulation to the dominant.

KEY CONCEPT A chord that has "full membership" in both keys is called a **pivot chord**. Pivot chords often serve a predominant function in one or both keys.

This type of modulation—called a **pivot-chord**, or **common-chord, modulation**—is the most common means of moving from one key to another. Analyze a pivot-chord modulation as in the example, by writing the first key and Roman numerals in the normal way, then the second key and Roman numerals on a lower level. Enclose the pivot chord (or chords) in a bracket or box, and indicate the relationship between the primary key and the new one by writing a Roman numeral in parentheses below the new key label.

Modulation or Tonicization?

The decision whether to analyze a passage as a tonicization or modulation is not always clear-cut, and different analysts may hear the passage in different ways. When making this decision, use the guidelines below to inform your choice, and be ready to defend it with concrete musical reasons.

KEY CONCEPT A passage that has modulated will feature at least one of the following:

- a PD–D–T progression in the new key;

- a firm cadence (usually a PAC or an IAC) in the new key, preceded by a predominant-function harmony and/or followed by music that continues in the new key;
- an extended progression in the new key (not just dominant-tonic).

Keep in mind that this "establishment of a new key" may only be a temporary emphasis on a harmonic area within the context of the larger harmonic structure. There is some latitude here: what may seem like a modulation on the small scale may be reinterpreted as a tonicization when you consider the entire composition. Occasionally, extended progressions (especially in Romantic-era music) may focus on a temporary tonic without a cadence or clear PD–D–T progression. In such a case, consider how long the progression lasts: does it seem to establish a new key because of its length, even without a cadence? If so, label it a modulation.

Modulation from a Major Key to Its Dominant

The first step in writing a modulating progression is to consider possible pivot chords. The pivot chord in Example 22.2—vi in the primary key = ii in the key of the dominant—is one of the most common means of modulating from a tonic key to its dominant (and may appear in root position instead of first inversion as here). Compare the diatonic chords in D and A major (Figure 22.1) to find other possibilities (these are boxed). You cannot use a chord built on E as the pivot, for example, because this triad has a minor quality in D major (ii) but a major quality A major (V).

FIGURE 22.1: Comparison of chords in D major and A major

D major							
Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	D	e	f♯	G	A	b	c♯°
A major							
Chords:	D	E	f♯	g♯°	A	b	c♯
Roman numerals:	IV	V	vi	vii°	I	ii	iii

KEY CONCEPT Pivot chords are diatonic in both keys and must have the same quality in both keys.

The pivot vi = ii makes a smooth progression because the triad can serve a predominant function in both keys, and both vi and ii are triads frequently found in major-key progressions. On the other hand, iii = vi is less common since the mediant triad, iii, does not often appear in common-practice progressions. When iii = vi acts as a pivot, it usually appears in a pivot area with several chords. The pivot I = IV is also less effective: it is not easy to convince the ear that the tonic triad is functioning as IV in a new key. For this reason, I6 is not marked as a pivot chord (IV6 in the dominant key) in Example 22.2 (m. 5)—you are unlikely to hear this chord functioning as IV6 in A major. Similarly, the V = I pairing is also rarely found; the V chord tends to sound like V in the tonic key unless it is preceded by other chords in the new key—in which case *they* are the pivot chords.

Though not useful as pivots, chords available only in the second key play an important role in establishing a modulation. Their appearance, and the accidentals that usually accompany them, signal that the key has changed and help confirm the modulation.

When performing a phrase that contains a pivot-chord modulation, you might want to aid in the "deception" of the pivot chord's dual nature by playing or singing it as though nothing unusual has happened. Then once the new key has

emerged, aim toward the cadence in the new key, attending to the resolution of the new leading tone with expressive timing, to emphasize the new tonal goal.

Try it #1

Construct a chart of pivot chords for the pair of keys given below, using Figure 22.1 as a model. Draw a box around pivot chords that are diatonic in both keys.

Show answers

(a) *A♭ major*

Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	A♭	b♭					

(b) *E♭ major*

Chords:	A♭	B♭					
Roman numerals:	IV	V					

Modulation from a Minor Key to Its Relative Major

Listen now to the opening measures of a piano piece by Clara Schumann, shown in Example 22.3. The cadence in measure 4 is a half cadence in A minor, but by measure 8 the piece has modulated to C major (the relative major), which is confirmed by an IAC. To identify the location of the modulation, you need to know what pivot chords would work for modulations between these relative keys.

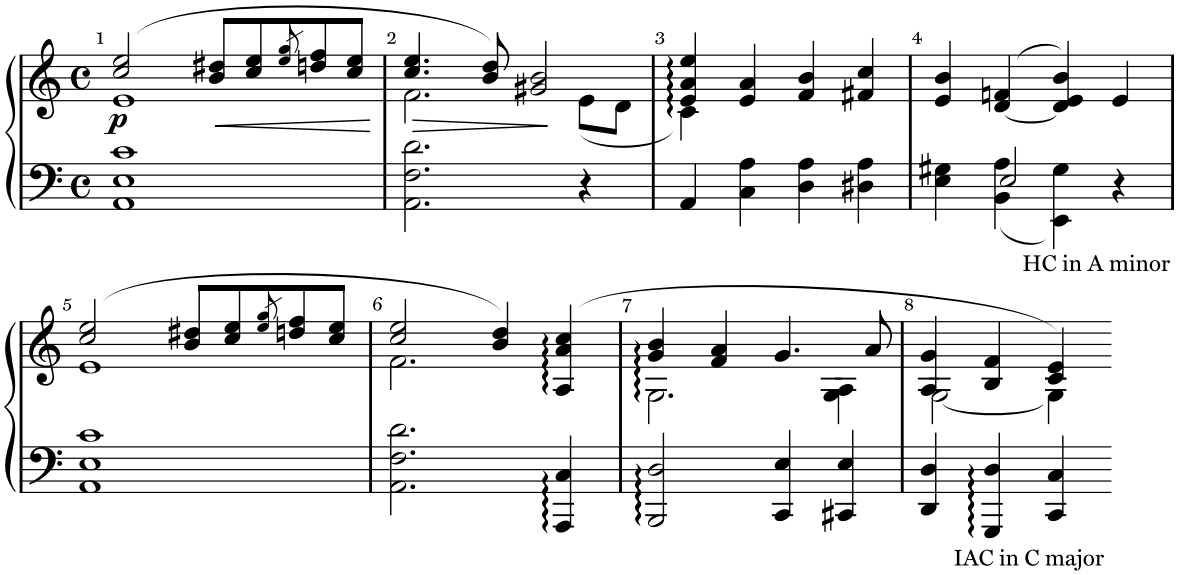
EXAMPLE 22.3: C. Schumann, *Drei Romanzen*, Op. 21, No. 1, mm. 1–8

Compare the chords in common between A minor and C major, given in Figure 22.2.

FIGURE 22.2: Comparison of chords in A minor and C major

A minor:	i	ii°	III	iv	v	V	VI	VII	vii°
Chords:	a	b°	C	d	e	E	F	G	g♯
C major:	vi	vii°	I	ii	iii		IV	V	

As this chart shows, there are several potential pivot chords between relative keys; the most frequently used are i = vi, III = I, iv = ii, and VI = IV. As in modulations from I to V in a major key, pivot chords from minor keys to the relative major are most effective when they fall into the predominant-function area of the phrase (for example, iv = ii).

The dominant-function chords in minor keys, V and vii°, are distinctive because of their altered leading tone—they do not appear as diatonic harmonies in major keys and therefore cannot function as pivot chords. However, the dominant-function chords in the major key (V and vii°) can, since they are diatonic chords in the relative minor (VII and ii°).

Try it #2

Try it #2

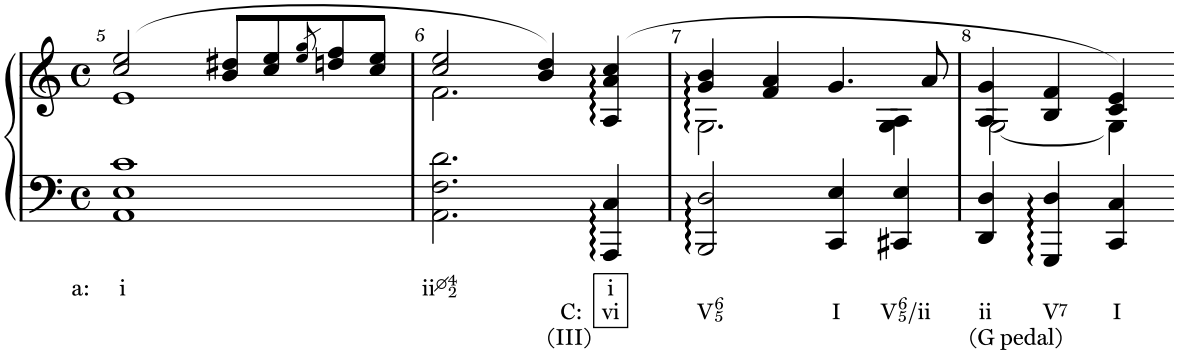
Construct a chart of pivot chords for the pair of keys given below, using Figure 22.2 as a model. Draw a box around pivot chords that are diatonic in both keys.

Show answers

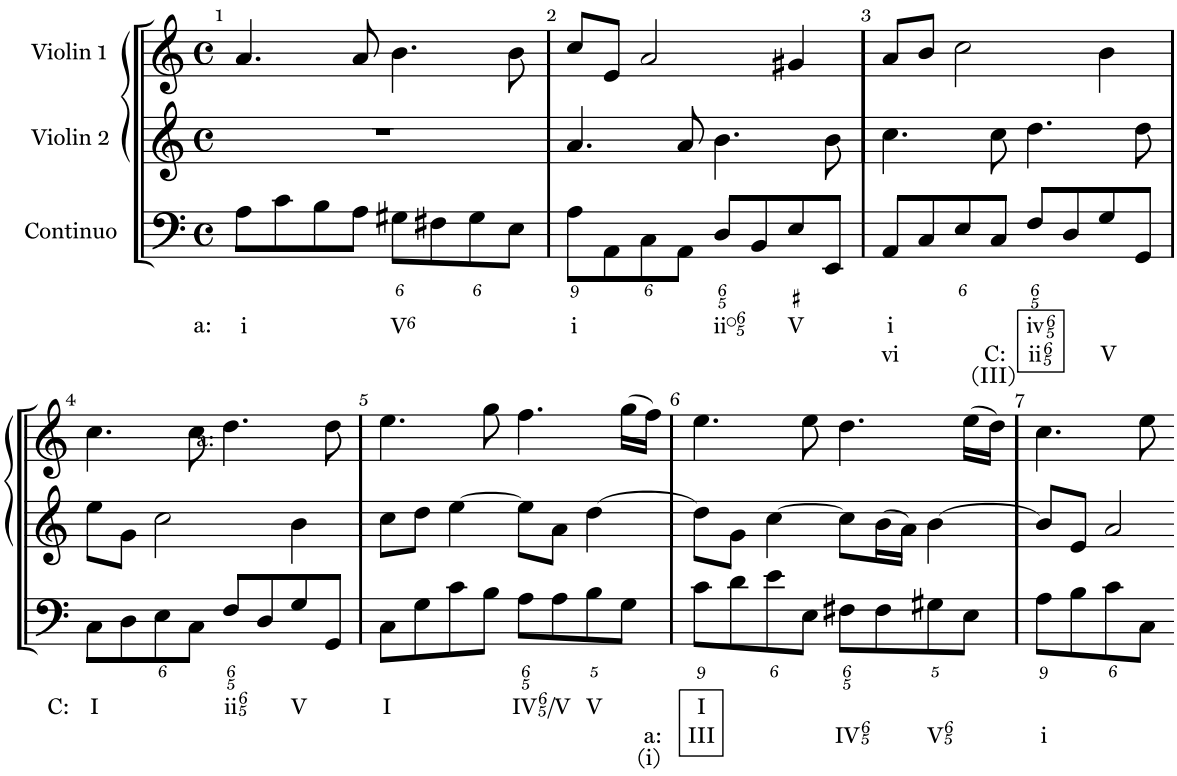
C♯ minor:	i	ii°	III	iv	v	V	VI	VII	vii°
Chords:	c♯	d♯°	____	____	____	____	____	____	____
E major:	vi	vii°	____	____	____	____	____	____	____

Now return to measures 5–8 of the romance (Example 22.4). The first chord of the phrase is i in A minor, the tonic key, followed by a pedal ii$^{\varnothing 4}_{2}$ in measure 6 (decorated by upper voice suspensions) and a return to the tonic. Then on the downbeat of measure 7, instead of the G♯ leading tone of A minor, we hear a G natural in a dominant seventh sonority that signals the shift to the new key, C major. We choose the chord that precedes that dominant harmony as the pivot: i = vi. From measure 6 to the end of the phrase, the harmonies are clearly in C major.

EXAMPLE 22.4: C. Schumann, *Drei Romanzen*, Op. 21, No. 1, mm. 5–8



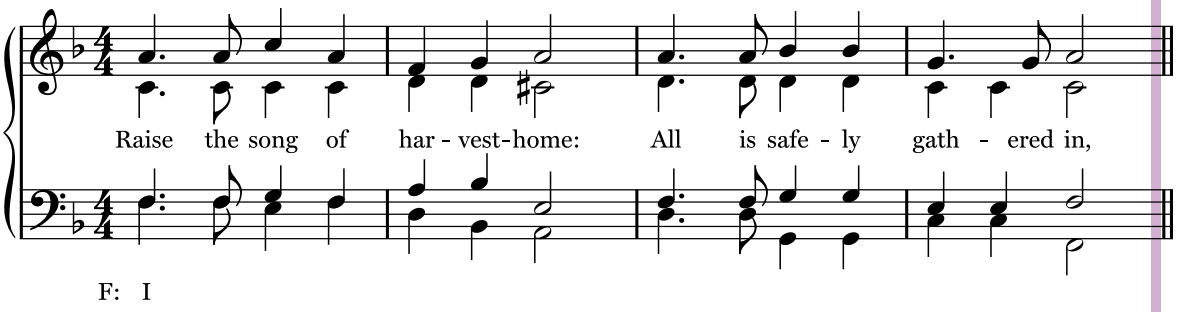
Baroque-era pieces in minor keys sometimes move back and forth freely between the tonic and its relative major, as in Example 22.5. Like the Schumann piece, this passage opens in A minor, the main key of the movement, which is confirmed in measures 1–3. The second half of measure 3 moves toward C major, with a ii$^{6}_{5}$–V–I progression in C in measures 3–4. The pivot chord (iv$^{6}_{5}$ = ii$^{6}_{5}$), with a predominant function, is diatonic in both keys.

EXAMPLE 22.5: Corelli, Allemanda, from Trio Sonata in A Minor, mm. 1–7

Measures 4–5 center on C major, but in measure 6, F♯ and G♯ signal a return to A minor. The pivot here is I = III on beat 1 of measure 6. It is not possible to use a more typical predominant pivot, like ii^{6} = iv^{6}, on beat 3 because of the need for F♯ in the

bass to connect to the leading tone G♯; the chord here is a major IV$^{6}_{5}$ instead. This pivot area will likely be understood as enacting a change of key only retrospectively, once we hear the cadence at the end of the phrase.

Try it #3

The passage below begins and ends in F major, but modulates briefly to D minor in the middle. Analyze with Roman numerals, labeling each pivot chord and cadence.

Show answers

Closely Related Keys

The concept of closely related keys can help you determine other modulation possibilities.

KEY CONCEPT The most typical modulations in common-practice tonal music are from the primary key to a **closely related key**, effected by means of a pivot chord. Closely related keys are those whose tonic chords are diatonic in the primary key.

A closely related key to any given major key is represented by the triad on ii, iii, IV, V, or vi. Figure 22.3 gives the closely

related keys for D major: E minor (ii), F♯ minor (iii), G major (IV), A major (V), and B minor (vi, the relative minor).

FIGURE 22.3: Closely related keys to D major

D major:	I	ii	iii	IV	V	vi	(vii°)
	D	e	f♯	G	A	b	(c♯°)

Since the chord built on the leading tone is diminished, it cannot serve as a goal of modulation—the tonic must be a major or minor chord. Each key can therefore claim five closely related keys. Practice naming closely related keys from any given tonic, and be aware of the possibilities for pivot-chord modulation when you compose.

A closely related key to any given minor key is represented by the triad on III, iv, v, VI, or VII. The five closely related keys for A minor (Figure 22.4) are C major (III, the relative major), D minor (iv), E minor (v), F major (VI), and G major (VII).

FIGURE 22.4: Closely related keys to A minor

A minor:	i	(ii°)	III	iv	v	VI	VII
	a	(b°)	C	d	e	F	G

Closely related keys are calculated from scale-degree triads in the natural minor scale. The major dominant key, E major, is therefore not considered closely related, and is not normally a goal of modulation from A minor. (Its key signature, four sharps, is too different from zero sharps to be considered a "close" relation.)

Another

Way

Since relative major and minor keys share the same set of closely related keys, another way to locate those for a minor key is to consider its relative major: e.g., for A minor, think of C major.

C major:	I	ii	iii	IV	V	vi	(vii°)
	C	d	e	F	G	a	(b°)

If you compare the diagram above with Figure 22.4, you'll see that four of the closely related keys for C major and A minor are the same–D minor, E minor, F major, and G major; the fifth is the relative major or minor key. Key signatures are another help: keys with the same key signature (the relative major or minor) or with a signature that differs by one accidental are closely related.

Try it #4

A. Name the five keys that are closely related to each of the following major keys. **Show answers**

CLOSELY RELATED KEYS

F major Gm, Am, B♭, C, Dm

E major _____

A major _____

G major _____

B major _____

B. Name the five keys that are closely related to each of the following minor keys. **Show answers**

CLOSELY RELATED KEYS

E minor _____

G minor _____

C minor _____

F minor _____

B minor _____

Other Pivot-Chord Modulations

From a Minor Key to v

In minor keys, the other frequent destination of pivot-chord modulation is the minor dominant (v), a modulation often found in Baroque-period compositions. Listen to the opening of the Corelli prelude given in Example 22.6. The first phrase, beginning in D minor, reaches a Phrygian half cadence on the downbeat of measure 7, followed by a dominant anacrusis to the next phrase. The second phrase also begins in D minor (m. 8), but this one ends with a PAC in A minor. The possible pivot chords are shown in Figure 22.5 below.

EXAMPLE 22.6: Corelli, Preludio, from Sonata in D Minor, mm. 1–14

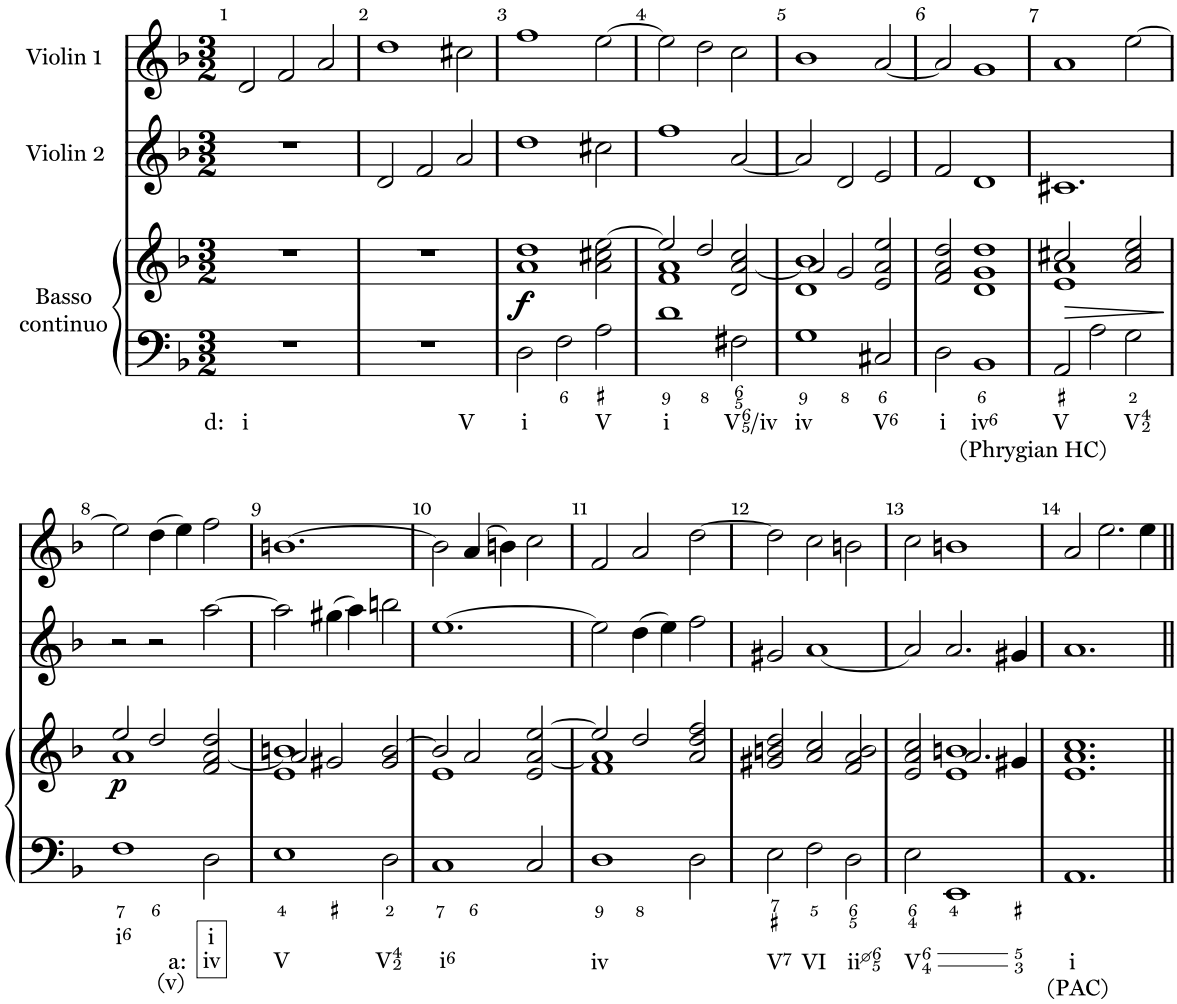



FIGURE 22.5: Comparison of chords in D minor and A minor

D minor											
Roman numerals:	i	ii°		III	iv		v	V	VI	VII	vii°
Chords:	d	e°		F	g		a	A	B♭	C	c♯°
A minor											
Chords:	d	e	E	F	G	g♯°	a		b°	C	
Roman numerals:	iv	v	V	VI	VII	vii°	i		ii°	III	

As you can see, this pairing of keys yields few workable pivot chords; the most typical is i = iv. In the Corelli sonata example, we have marked i = iv in measure 8, since the B♮ and G♯ of the new key are introduced in measure 9 and remain in effect through the cadence.

From a Major Key to ii, iii, IV, and vi

These pivot modulations are possible, but some are problematic in ways we will see below. Here is a good chance to practice identifying pivot chords.

Try it #5

Construct a chart of pivot chords for the pair of keys given below, using Figure 22.1 as a model. Draw a box around pivot chords that are diatonic in both keys.

Show answers

(a) *D major*

Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	D	e	f♯	G	A	b	c♯°
E minor							
Chords:	D						
Roman numerals:	VII						

(b) *D major*

Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	D	e	f♯	G	A	b	c♯°
F♯ minor							
Chords:							
Roman numerals:							

(c) *D major*

Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	D	e	f♯	G	A	b	c♯°
G major							
Chords:							
Roman numerals:							

(d) *D major*

Roman numerals:	I	ii	iii	IV	V	vi	vii°
Chords:	D	e	f♯	G	A	b	c♯°

B minor

Chords:							
Roman numerals:							

The pivot choices from a major key to its supertonic are limited: two of the pairings involve the tonic in one of the keys (I = VII and ii = i), one includes the mediant chord (IV = III), and one involves minor v (vi = v). Modulation to ii is often accomplished by tonicizing ii with V^7/ii or $vii^{\circ 7}$/ii, then continuing in the key of ii, or by sequence.

Modulation from a major key to its mediant is not a popular choice of Baroque or Classical composers, possibly because making vii° (C♯-E-G in D major) into V of the mediant (C♯-E♯-G♯) means altering two chord members. The pivot choices are I = VI, iii = i, V = III, and vi = iv; of these, I = VI and vi = iv work best.

The problem with modulating from a major key to its subdominant is that to be a convincing modulation, I of the original key has to stop sounding like the tonic and take on the role of the dominant. But if it starts sounding too convincingly like the dominant of IV, then we lose the sense of tonic as the home key. Modulations to IV in common-practice music are usually brief, or they occur well into a longer composition, so that the sense of home key is already well established. There are several good pivot chords, however, including I = V, ii = vi, IV = I, and vi = iii. The best is ii= vi, which often appears in a pivot area with i = iii or IV = I.

There are many options for modulating from a major key to its relative minor (a relatively common modulation in Classical-era works) because of the large number of shared diatonic triads between these keys: I = III, ii = iv, iii = v, IV = VI, V = VII, vi

= i, and vii° = ii°. Again, typical pivot choices are those where both chords have a predominant function, in this case, ii = iv and IV = VI.

SUMMARY

When planning a modulation between closely related keys, you may want to make a chart like those above to help you choose a pivot chord.

- The smoothest pivots are chords that occur in the predominant-function area in both keys.
- When you construct a chart, pay careful attention to the two key signatures in determining chord quality; don't try to use a "pivot" that has a different chord quality in the two keys.
- Keep in mind that some closely related keys are more easily reached by a different method, such as an initial tonicization confirmed by continuation in the new key, or by sequence.

Writing a Pivot-Chord Modulation

KEY CONCEPT To create a pivot-chord modulation:

1. Establish the first key, by writing one or more phrases in the initial key or a progression that firmly establishes a sense of the tonic.
2. Examine the possible pivot chords. Compare the diatonic chords in the two keys, and determine which chords can function in both.
3. Write a progression in the first key through the pivot chord(s).
4. Continue from the pivot chord with a normal progression in the

new key, remembering to add or subtract accidentals as needed.

5. Write a cadence in the new key.

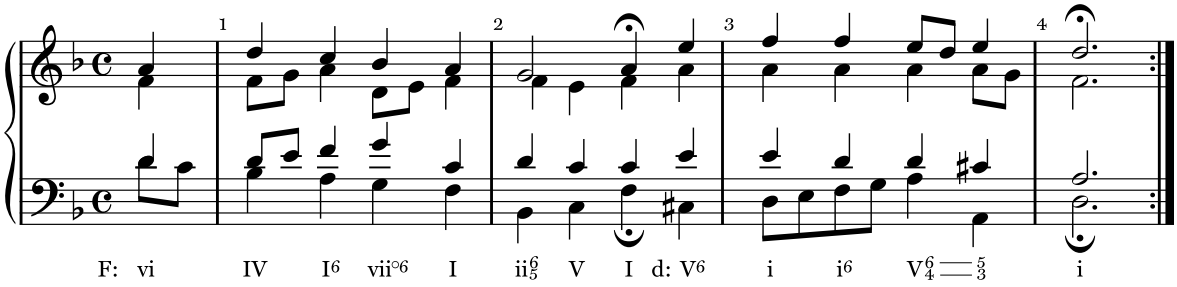
The music that follows the modulation may continue in the new key or return to the old. Follow normal guidelines for doubling and parallels, resolve leading tones according to the prevailing key at that moment, and don't forget to add the appropriate accidentals and to resolve sevenths and other tendency tones.

Direct Modulations

Not all modulations to closely related keys involve pivot chords. Sometimes a new phrase simply begins in the new key, a process called **phrase modulation**; or a new key may be introduced midphrase by dominant-to-tonic motion in that key. These **direct modulations** are usual in chorale settings, but may also be found in other contexts. Depending on how sudden and unexpected the change of key is, some writers refer to direct modulations as **abrupt modulations**.

Listen, for example, to the first two phrases from the Bach chorale in Example 22.7.

EXAMPLE 22.7: Bach, "O Haupt voll Blut und Wunden," mm. 1–4

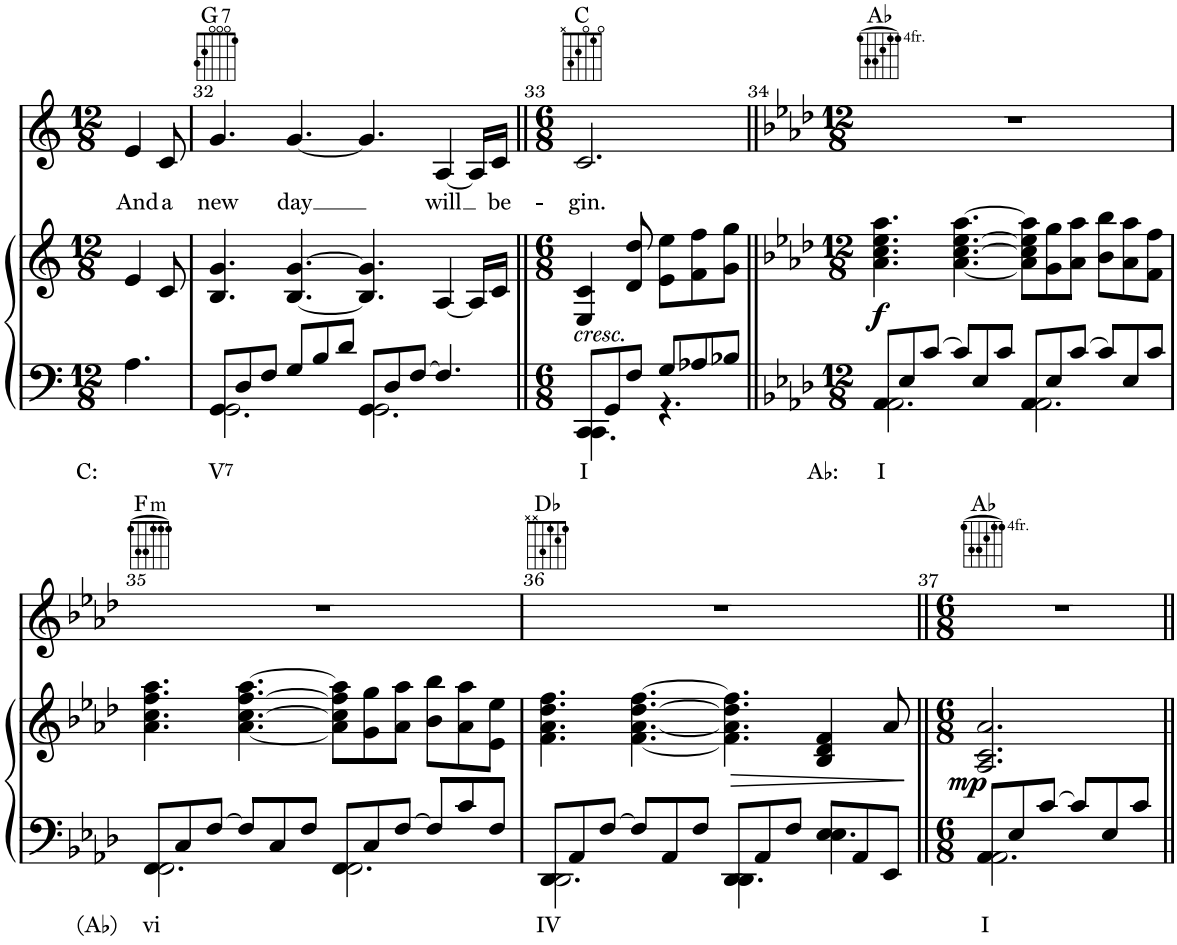


The first phrase cadences in F major (m. 2), the primary key of this setting, with the progression (beginning in m. 1, beat 4) I–ii$^{6}_{5}$–V–I. The next phrase starts right out in the new key of D minor, with V^{6}–i. If those two chords were immediately followed by chords in F major, we would label them V^{6}/vi–vi and consider them a tonicization of vi. Instead, the phrase continues in D minor and cadences in that key, confirming a modulation to D minor. The direct modulation in this chorale is less abrupt than it could be because we have been prepared for D minor by the beginning of the first phrase, whose first two

chords could be labeled i–VI in D minor instead of vi–IV in F major. Without this opening D minor triad, the shift to D minor after the fermata might seem more sudden.

Direct modulations are often used in popular music to heighten emotion. These can be considered phrase modulations or abrupt modulations, depending on the effect created. Sometimes, as in Example 22.8, there is connecting material to smooth the entrance of the new key, but not a pivot chord. These modulations are normally not made to closely related keys—this one goes from C major to A♭ major.

EXAMPLE 22.8: Lloyd Webber, "Memory," from *Cats*, mm. 32–37

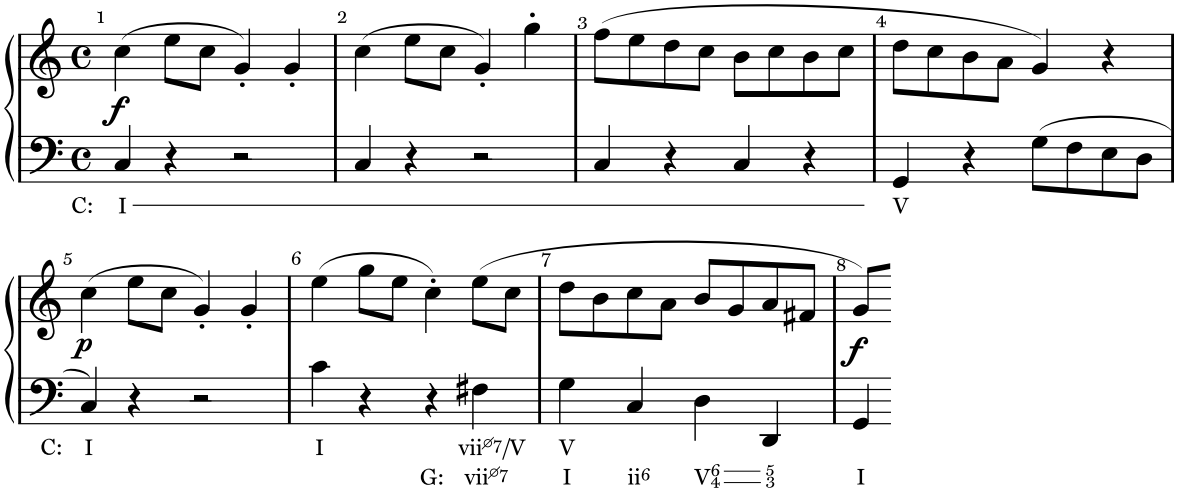


Modulations Introduced by Secondary Dominants

A secondary-dominant chord can introduce a direct modulation anywhere within a phrase: write the progression with a secondary dominant as though a tonicization, then continue the progression in the new key. Be sure to include predominant-function chords and a cadence in the new key to confirm the modulation. While this type of modulation is not as seamless as a pivot-chord modulation, it does not have to sound abrupt.

For an example, listen to the first eight measures of Clementi's Sonatina in C Major (Example 22.9).

EXAMPLE 22.9: Clementi, Sonatina in C Major, mvt. 1, mm. 1–8



After establishing the main key of the piece, C major (mm. 1–4), Clementi moves to a new key by what may seem at first to be a tonicization: a secondary leading-tone chord, vii$^{\varnothing 7}$/V, resolving to V in measure 7. This resolution is followed, however, by a familiar phrase-model conclusion (T–PD–D–T) in G major (I–ii^{6}–V$^{6}_{4}$-$^{5}_{3}$–I) without any sense of return to C major.

The G major key area then continues to measure 15, the secondary dominant having introduced an ambiguity between keys that helps smooth the transition between them.

Locating Modulations

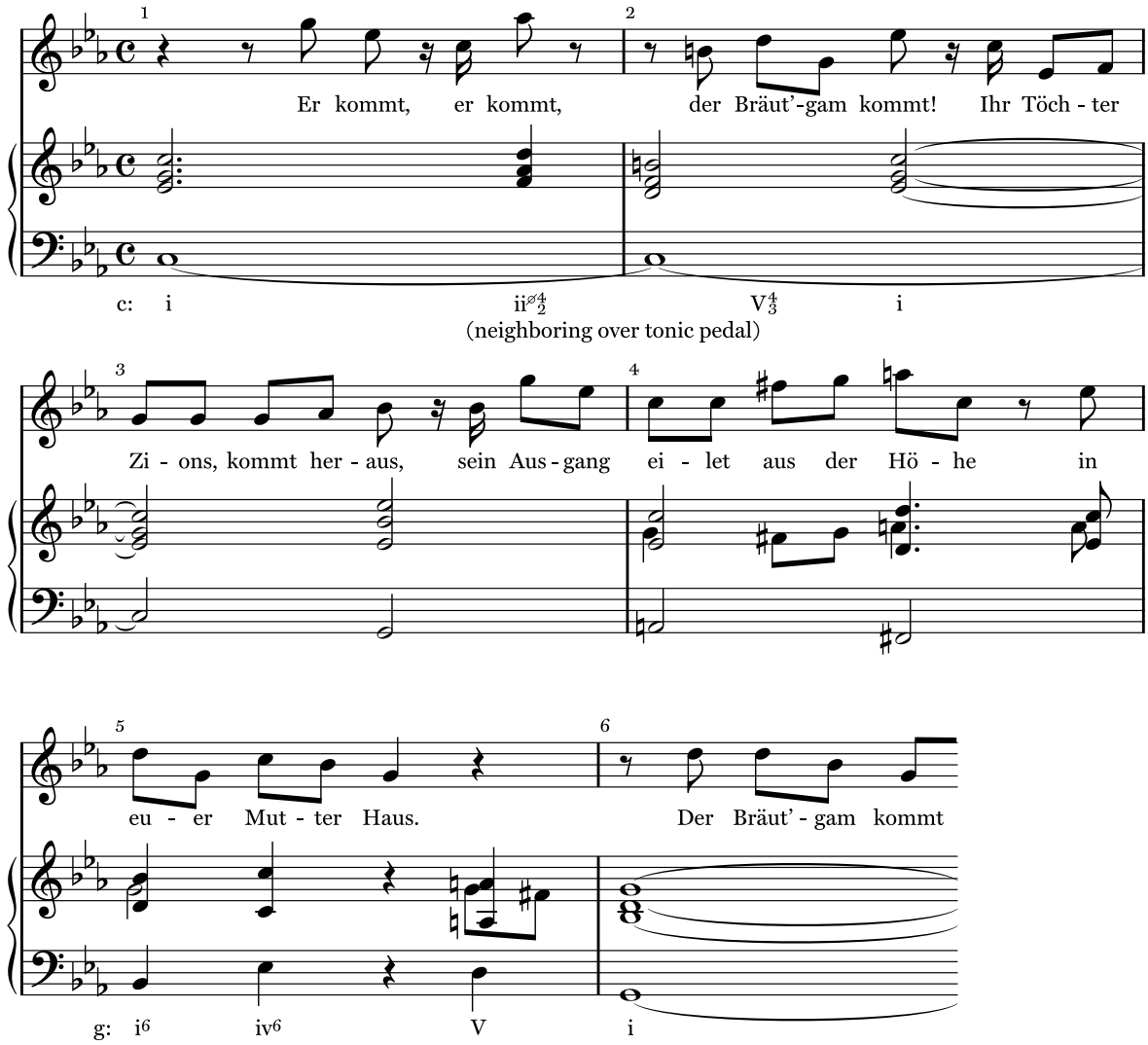
The procedure for locating modulations is similar to the one followed in Chapters 20 and 21 to find secondary dominants. First, determine the tonic key. Then scan for accidentals to locate a dominant-function chord that resolves to a new, temporary tonic. Remember that dominant-function chords may include both dominant sevenths (Mm7) and leading-tone seventh chords (usually fully diminished). Scan the score for the characteristic $\hat{5}$–$\hat{1}$ bass motion associated with dominant-to-tonic progressions; in many cases where there is a modulation, the dominant-to-tonic motion falls at the end of a phrase, making the secondary dominant easy to spot.

KEY CONCEPT To find a pivot chord, back up from the cadence or the first appearance of chromatic alterations: the pivot will usually be located just before the accidentals are introduced and may be a predominant-function harmony. Keep in mind that there may be more than one chord that makes sense in both keys. In that case, choose one or label the whole pivot area in both keys.

If the modulation is made by a secondary dominant, look for a continuation in the new key, including a PD–D–T progression. If there is only a dominant-to-tonic cadence (without a predominant), check to see whether the next phrase continues in the new key. If so, the cadence may be interpreted as a modulation; if not, it should be labeled with a secondary dominant (a tonicization).

Modulations in Musical Contexts

Listen to the opening of “Er kommt,” a tenor solo from Bach’s Cantata No. 140. To analyze this modulatory passage, begin by determining the opening and closing keys, then find a possible pivot chord that shifts the tonal center from the first key to the second. As marked in Example 22.10, the passage begins in C minor, with a tonic triad expanded by a neighboring ii$\varnothing^{4}_{2}$ and leading-tone triad above a tonic pedal, and closes with a T–PD–D–T progression in G minor. Where does the key shift?

EXAMPLE 22.10: Bach, “Er kommt,” mm. 1–6

Er kommt, er kommt, der Bräut'-gam kommt! Ihr Töch - ter
c: i ii⌀4/2 V4/3 i
(neighboring over tonic pedal)
Zi - ons, kommt her - aus, sein Aus - gang ei - let aus der Hö - he in
eu - er Mut - ter Haus. Der Bräut' - gam kommt
g: i6 iv6 V i

Look for specific new accidentals: for a modulation from C minor to G minor, the A♭ of the key signature should shift to A♮, and the C minor leading tone (B♮) will disappear in favor of the new F♯ leading tone of G minor. Find the measure in which these accidentals begin to appear consistently (m. 4)—the pivot chord should come right before, in this case measure 3. Either chord in that measure is a potential pivot: i = iv (beat 1) or III6 = VI6 (beat 2). Choose one, or include both for a pivot area, then write Roman numerals for measures 3–4 to complete the analysis. If you follow this procedure when analyzing modulatory passages, the choice of pivot chord should be clear.

Harmonizing Modulating Melodies

The principles of pivot-chord and direct modulations may be applied to the harmonization of melodies as well.

KEY CONCEPT To harmonize a melody with an implied change of key, start by making a harmonic plan.

1. Write the scale degrees for the first few pitches of the melody. Harmonize these pitches with chords that clearly establish the primary key.
2. Divide the melody into phrases. A period will require two phrases, while a chorale-style melody will include several short phrases.
3. Examine the melody at the end of each phrase to see what key it suggests. For phrases whose accidentals and/or melodic scale degrees imply a change of key, write the scale degrees for the cadence in the new key, and select chords that make an effective cadence in that key.
4. In the middle of a modulating phrase, pick a spot for the pivot chord or direct modulation before any accidentals appear in the new key, then write the scale degrees for the entire melodic phrase, indicating the change of key.
5. Choose the remaining harmonies to make a good phrase progression. Remember to add all the necessary accidentals for the new key.

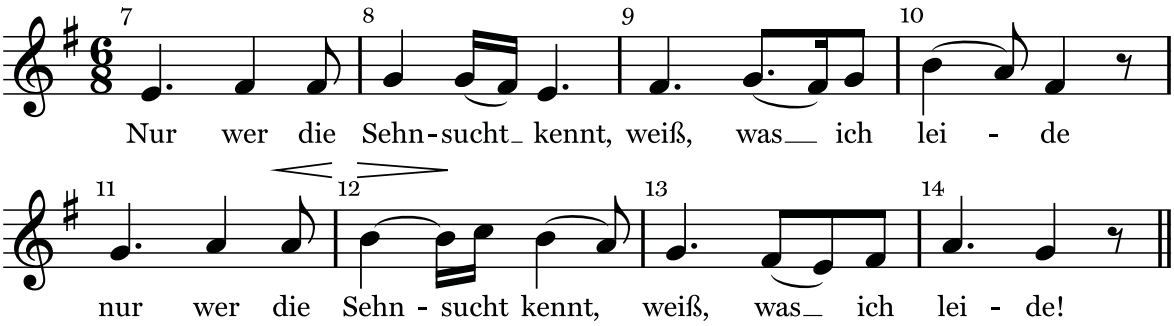
If a phrase ending indicates a cadence in a new key, set the cadence with either a tonicization (V^7–I in the new key) or a full modulation. Think about how firmly you want the new key to be established, and choose progressions to make the effect you want. If an entire new phrase seems to be in a new key (most

common in chorales), you may use a direct modulation—simply think of the melody pitches for the whole new phrase in the new key, and set them in the normal fashion. Phrases with direct modulations often begin with a dominant-tonic anacrusis.

We now apply these principles to a melody by Schubert, "Nur wer die Sehnsucht kennt" (Example 22.11a).

EXAMPLE 22.11: Schubert, "Nur wer die Sehnsucht kennt"

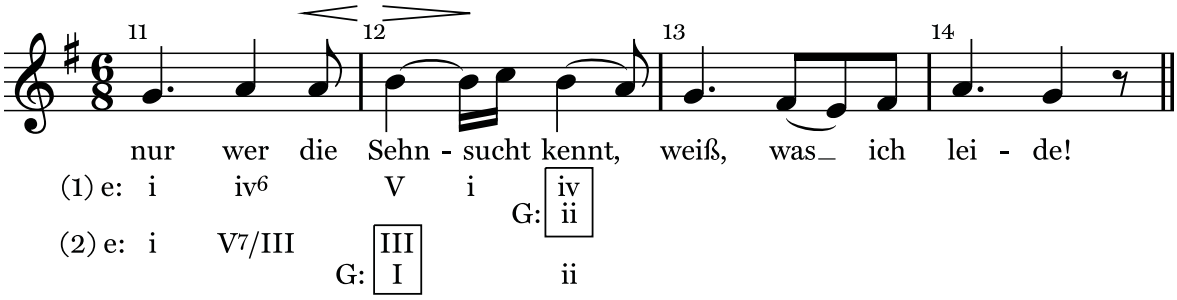
(a) Mm. 7–14 (vocal line)



Translation: Only one who knows longing knows what I suffer.

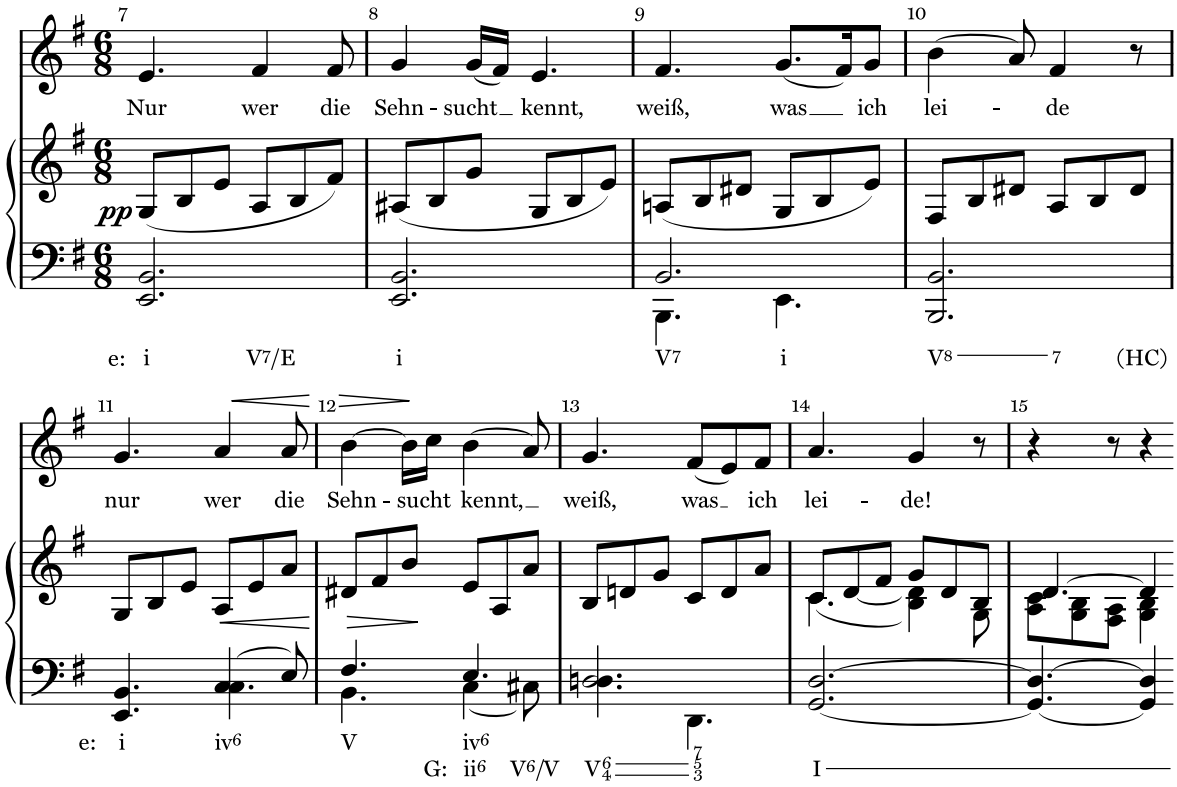
Begin by singing both phrases. The first begins and ends (in m. 10) in the primary key of E minor, with $\hat{2}$ implying a half cadence at the end of the phrase. Although there are no accidentals to point toward a modulation, measures 13 and 14 end the second phrase with $\hat{1}$–$\hat{7}$–$\hat{6}$–$\hat{7}$–$\hat{2}$–$\hat{1}$ in G major, which can be set with V^{6}_{4}–$^{5}_{3}$–I. Therefore, if you begin with a tonic in E minor at the beginning of measure 11, you need to modulate between 11 and 13. There are several ways to do this. Two are shown in part (b).

(b) Mm. 11–14 (vocal line)



Measures 11–12, beginning in E minor, could be set i iv6 | V i iv = ii (in G major). Alternatively, i V7/III | III = I (in G major) ii would work (with a suspension in the melody, beat 2 of m. 12, in both harmonizations). Schubert's setting is shown in Example 22.12.

You may be able to think of other possibilities as well. To complete other settings, compose the bass line, using inversions where needed to make a good counterpoint with the melody, then fill in the inner voices as usual. When setting song melodies like this one, give your piano accompaniment a keyboard figuration.

EXAMPLE 22.12: Schubert, "Nur wer die Sehnsucht kennt," mm. 7–15

Did You Know?

Austrian theorist and composer Joseph Riepel, writing in 1775 in the second volume of his *Anfangsgründe der musikalischen Setzkunst* (*Elements of Musical Composition*), described the relationship between closely related keys as being like the relationships between workers on an estate. In the key of C major, for example, C major is the steward (*Meyer*) of the estate, who appears frequently to keep everything in order; G major is the overseer (*Oberknecht*), second in command; A minor is the head maid (*Obermagd*); E minor is the assistant maid (*Untermagd*); F major is a hired day laborer (*Taglöhner*); and D minor is one of the female household workers who run errands (*Unterläufferin*).

TERMS YOU SHOULD KNOW

closely related keys
modulation
- abrupt modulation
- direct modulation
- phrase modulation
- pivot-chord (common-chord) modulation

pivot area
pivot chord
tonicization

QUESTIONS FOR REVIEW

1. What is a modulation?
2. What is the difference between a tonicization and a modulation? What criteria do you use to identify a modulation?
3. What is the most common key to modulate to from a major key? from a minor key?
4. How do you locate the possible pivot chords between two keys?
5. In music for your own instrument, find a modulation from a major key to its dominant. What clues will you look for to locate this modulation?
6. In music for your own instrument, find a modulation from a minor key to its relative major. What clues will you look for to locate this modulation?

7. What are the steps for harmonizing a melody that modulates from one key to another?
8. How would identifying a modulation help you perform a passage?

Know It? Show It!

Focus by working through the tutorials.

Learn with InQuizitive.

Apply what you've learned to complete the workbook assignments.

23 Binary and Ternary Forms

Outline

Binary form
- Phrase design
- Sections
- Tonal structures
- Writing binary-form pieces

Simple ternary form

Binary forms as part of a larger formal scheme
- Composite ternary
- Composite binary

Overview

In this chapter, we consider how the musical elements we have studied contribute to the overall structure of a composition. Specifically, we learn how to recognize two common forms: binary form and ternary form.

Repertoire

Anonymous, Minuet in D Minor, from the *Anna Magdalena Bach Notebook*

Joseph Haydn, String Quartet in D Minor, Op. 76, No. 2, mvt. 3
Arcangelo Corelli, Trio Sonata in A Minor, Op. 4, No. 5, Allemanda
Wolfgang Amadeus Mozart
    Piano Sonata in D Major, K. 284, mvt. 3
    Sonata for Violin and Piano in C Major, K. 6, mvt. 3, Menuetto I
    String Quartet No. 10 in C Major, K. 170, mvt. 2
    Variations on "Ah, vous dirai-je Maman"
    Variations on "Unser dummer Pöbel meint"
Robert Schumann, from *Album for the Young*, Op. 68 No. 3:
    "Trällerliedchen" ("Humming Song") No. 9: "Volksliedchen" ("Folk Song")
John Philip Sousa, "The Stars and Stripes Forever"

Binary Form

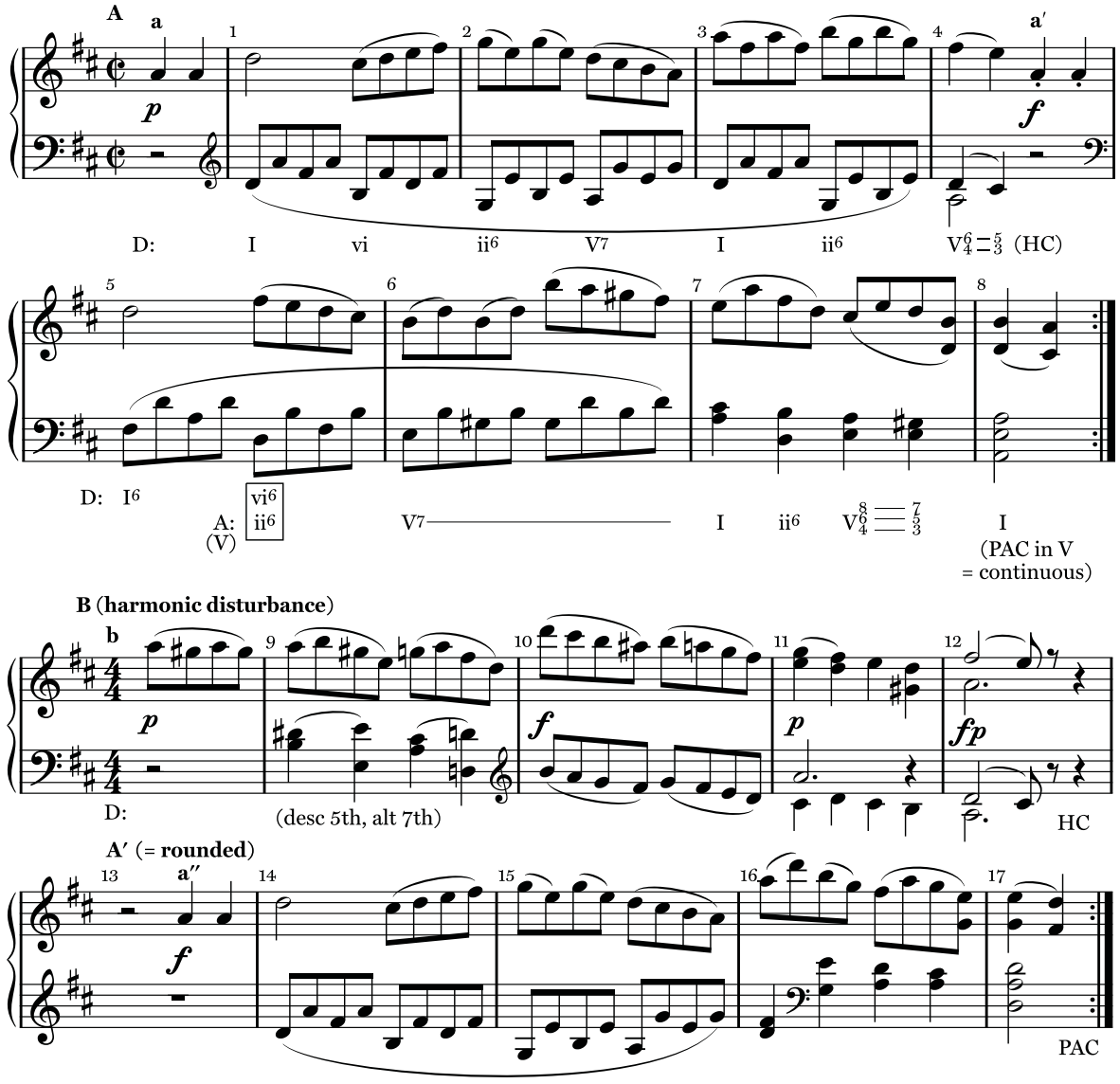
In earlier chapters, we considered extended passages and phrase forms, but we have not yet addressed larger **musical forms**—the overall harmonic and thematic organization of compositions.

KEY CONCEPT One of the most common musical forms, binary form, is comprised of two sections, each of which is usually repeated (or "reprised"). A quick way to identify a binary-form movement is to look for the symbols ‖: :‖ ‖: :‖ (repeat signs) that mark the two sections. Occasionally one or both of the repeats may be written out instead of indicated with repeat signs. Binary form is often associated in Baroque and Classical styles with dances, but can appear in other contexts as well.

Phrase Design

Listen to the theme of a Mozart theme-and-variations movement, while following Example 23.1. We examined the modulation in measures 1–8 in Chapter 22.

EXAMPLE 23.1: Mozart, Piano Sonata in D Major, mvt. 3, mm. 1–17

Rounded continuous binary

Since Mozart's theme divides into two parts, each of which is repeated, it is a binary form. The two phrases in measures 1–8, the first part, make up a modulating parallel period, **a** (mm. 1–4) and **a′** (mm. 5–8); this first section is designated **A**.

KEY CONCEPT If the first section (A) of a binary form ends with a cadence on the tonic of the primary key, the form is called **sectional binary**: this section is tonally complete and could stand on its own. If the first section ends with a cadence not on

the tonic of the primary key, the form is called **continuous binary**: the piece must continue to a cadence on the tonic.

As the first section of Mozart's theme ends on the key of the dominant, this binary form is continuous.

Now examine the second half of the theme (mm. 9–17). This section also divides into two four-measure phrases (with an expressive three-beat silence from m. 12 to m. 13 adding a measure). While listening to this piece, you may have noticed that measures 13–17 are similar in motivic and harmonic design to the two phrases in section **A**. Compare these three phrases: measures 14–15 are identical to 1–2, and 16–17 are a transposition of 7–8 into the key of D major. This phrase can therefore be labeled **a**″ to signify its own similarity to the first two phrases.

KEY CONCEPT When the initial melody (or the first part of the melody) from the first phrase returns at the end of a binary piece, the form is called **rounded binary**: the return of material from the beginning "rounds out" the formal plan. The overall design of rounded binary is represented by **𝄆 A 𝄇 B A** (or **A**′) **𝄇**. The final section is labeled **A** if the opening material returns unchanged, and **A**′ if it is shortened or altered (changed to remain in the tonic key, for example). When you write a prime (′) with a letter designation in your analyses, be sure to indicate what is changed to merit the prime.

The beginning of the second half (mm. 9–12) shares some motivic connections to the other phrases, but it is less stable harmonically and contrasts with what came before. It is labeled with a small **b** to show that it is a contrasting phrase; and because it plays a role in the larger formal design, we label it

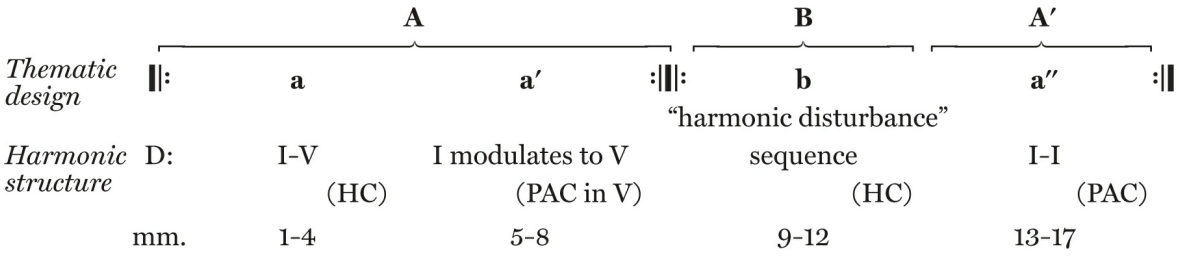
B. (Lowercase letters show form at the phrase level and uppercase the work's overall form.)

Now consider the harmonic aspects of this phrase. The anacrusis emphasizes the pitch A5, which suggests A major. On the other hand, measure 9 features a short descending-fifth sequence, alternating dominant seventh chords and triads, so that it is hard to hear the tonic; measure 10 doesn't establish the key either. The tonal ambiguity here is intentional. This phrase ends in measure 12 with a half cadence in D major, but Mozart interprets measures 11–13 quite differently in the variations that follow. In some cases, the progression seems clearly in A major; in others, D major. This phrase constitutes a "harmonic disturbance" that is typical of the **B** section of binary forms.

KEY CONCEPT The term "thematic design" refers to a piece's melody, figuration, texture, and musical characteristics other than harmony. "Harmonic structure" describes the harmonic plan. Even though the thematic design of rounded binary suggests three sections (**A B A′**), its harmonic structure—with (usually) its framing repeat signs and a harmonic disturbance at the beginning of the second half—defines a two-part form.

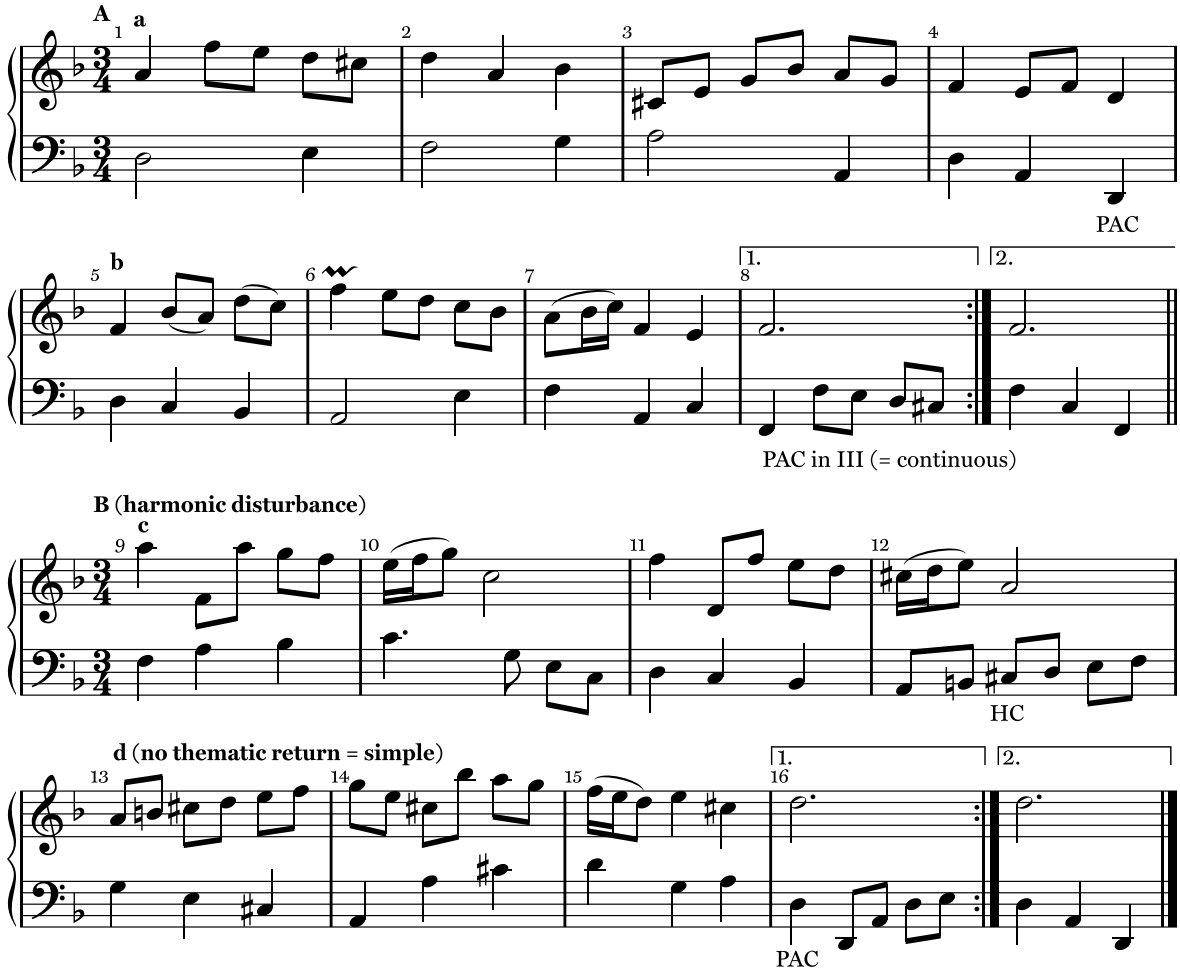
The form of Mozart's theme is diagrammed in Figure 23.1, with the thematic design elements on top and the harmonic structure (Roman numerals) below. The form is rounded continuous binary: rounded because of its design (the last phrase is **a″**), and continuous because of its harmonic structure (the first section does not cadence on the tonic).

FIGURE 23.1: Rounded continuous binary in the Mozart theme



Example 23.2 shows a short Baroque-style dance movement. A quick glance at the repeat signs (and the fact that it is a dance movement) indicates a binary form. Listen to the piece, and consider the phrase design of each section.

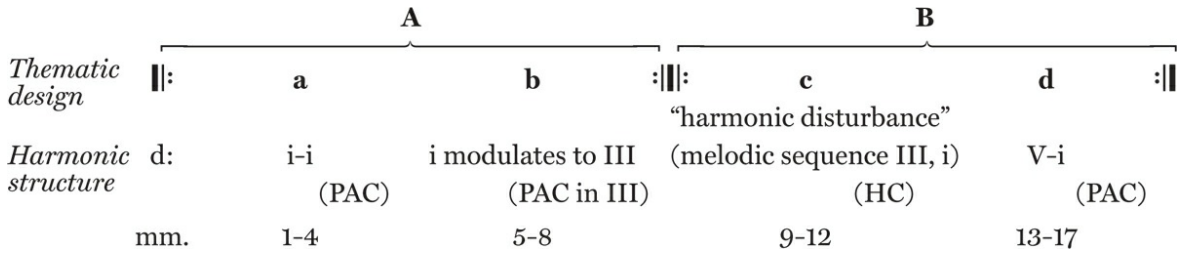
EXAMPLE 23.2: Anonymous, Minuet in D Minor, mm. 1–16

Simple continuous binary

Unlike the Mozart example, the first eight measures of this minuet (**A**) consist of two contrasting phrases, **a** (mm. 1–4) and **b** (mm. 5–8). The cadence in measure 4 is an authentic cadence in D minor, but by measure 8 the piece has modulated to F major (III), the relative major, confirmed by a PAC. The two phrases form a contrasting modulating period; and because section **A** does not cadence in the tonic key, the form is continuous binary. The last two phrases are also contrasting (no small letters are repeated here): measures 9–12 (**c**) feature a melodic sequence, and 13–16 (**d**) return to the tonic, D minor.

This type of form, where the end of the second half features no thematic return from the beginning of the movement, is called **simple binary**. In the Corelli minuet, this form is represented by the diagram 𝄆 **A** 𝄇𝄆 **B** 𝄇 (Figure 23.2), or simple

continuous binary: simple because thematic elements of the first phrase do not return in the fourth, and continuous because the first section does not cadence in the main tonic key.

FIGURE 23.2: Simple continuous binary form in the minuet



The simple binary design **A** **B** is prevalent in Baroque-era composition, along with **A** **A′**, when the melodic motives of the two sections are quite similar. The rounded binary design is the most common in late eighteenth- and nineteenth-century compositions; the material that returns (**A′**) in rounded binary is usually a shortened version of the initial **A**, made from the opening few measures, with a cadence in the tonic key attached.

Try it #1

For each of the following binary forms, circle the appropriate terminology. **Show answers**

1. If the first section ends on a tonicized half cadence, the form is (a) sectional (b) continuous.
2. If the first section ends on the main tonic of the piece, the form is (a) sectional (b) continuous.
3. If melodic materials from the first section return in the last phrase of the second section, the binary is (a) simple (b) rounded.

4. If the second section consists of new melodic material, the binary is (a) simple (b) rounded.

5. The form diagram 𝄆: **A** :𝄇𝄆: **B** :𝄇 represents (a) simple binary (b) rounded binary.

6. The form diagram 𝄆: **A** :𝄇𝄆: **B A′** :𝄇 represents (a) simple binary (b) rounded binary.

7. The form diagram 𝄆: **A** :𝄇𝄆: **A′** :𝄇 represents (a) simple binary (b) rounded binary.

Sections

Repeat signs are often the first visual clue that a piece is in binary form. As you may have noticed, this minuet includes first and second endings as well as repeat signs for each section. The first ending in measure 8 smooths the return to D minor as measures 1–8 are repeated, and the second allows for more finality at the cadence.

Because binary form originated in dance movements, individual phrases in many binary-form pieces are four or eight measures long. In binary pieces written for concert performance rather than dancing, there may be some variation in phrase lengths in the second section, often created by phrase extensions or elision. Recall that the second section in the Mozart theme is nine measures long, not the best theme for dancing. Both sections of the minuet, on the other hand, are eight measures long. You could dance to this minuet!

KEY CONCEPT The two sections of a binary form may be the same length, or the second may be somewhat longer than the first. The first section consists of at least one four- or eight-measure phrase; it is often a two-phrase parallel or contrasting period. Other possible lengths for the first section are sixteen or

thirty-two measures, but it may be longer, and need not divide evenly into four-measure phrases.

Tonal Structures

For a piece to be called a binary form, an essential requirement is that it move away from the tonic key. The most common modulation goal in major-key pieces is the key of the dominant; in minor-key pieces it is the mediant (relative major) or the minor dominant (in Baroque-era works). In both pieces we have examined, the **A** sections follow the usual modulatory plan: the Mozart theme modulates to the dominant, and the minuet to the relative major. In some brief and uncomplicated binary forms, a tonicization of V (major keys) or III (minor keys) in the first section may substitute for the full modulation, or the first section may remain in the tonic and cadence there, with either a PAC (sectional) or a HC (continuous).

KEY CONCEPT

- In sectional binary forms, the first (**A**) section stays in the tonic.

  Major keys: 𝄆 I to I (PAC) 𝄇 Minor keys: 𝄆 i to i (PAC) 𝄇

- In continuous binary forms, the first section typically modulates, or it may end on a half cadence.

  Major keys: 𝄆 I modulates to V 𝄇
  𝄆 I to tonicized V 𝄇
  𝄆 I to HC (V) 𝄇

  Minor keys: 𝄆 i modulates to III :
  𝄆 i modulates to v :
  𝄆 i to tonicized III :
  𝄆 i to HC (V) 𝄇

The harmonic disturbance, or instability, of the second (**B**) section may be expressed by a sequence or a modulation to another key (usually one of the closely related keys). In the case

of sectional binary forms, the second half may begin with a prolongation of the dominant (major-key pieces) or a modulation to the relative major (minor-key pieces). The dramatic instability of the beginning of the **B** section is then followed by a return to the tonic, with a phrase (or at least a strong cadential pattern) reestablishing harmonic stability in the home key.

KEY CONCEPT The organization of the second section of a binary form depends, in part, on the harmonic plan of the first section. Following are some typical harmonic plans for second (**B**) sections in brief binary pieces.

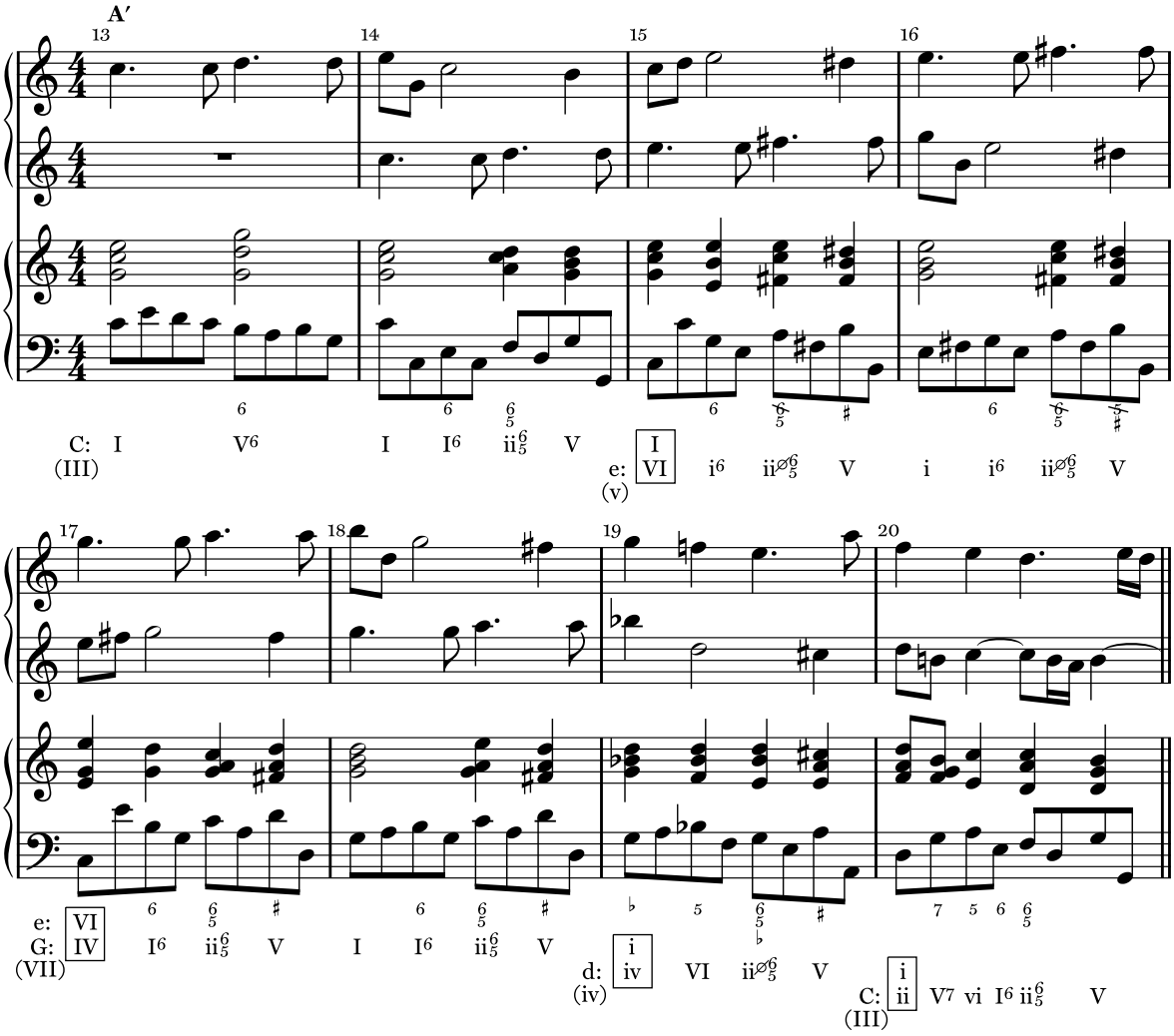
	1st portion *(harmonic disturbance)*	2nd portion *(return of tonic)*
Major keys:	‖:sequence	I–I:‖
	‖:tonicized V	I–I:‖
	‖:tonicized ii	I–I:‖
	‖:tonicized vi	I–I:‖

	1st portion *(harmonic disturbance)*	2nd portion *(return of tonic)*
Minor keys:	‖:tonicized III	i–i:‖
	‖:tonicized iv	i–i:‖
	‖:tonicized v	i–i:‖
	‖:sequence	i–i:‖

In binary-form pieces from the Romantic era, the key areas may be more adventurous, including an excursion into a distantly related key in the first section of a continuous binary, or in the harmonic disturbance at the beginning of the **B** section.

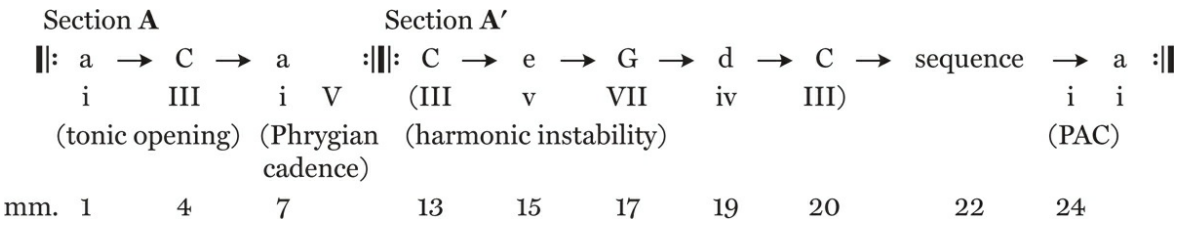
In the Baroque era, phrases are less balanced in length than in the Classical period, and sections may be extended by sequences and multiple tonicizations before returning to the tonic key. Corelli's Allemanda (anthology) provides an example. Example 23.3 shows the harmonic disturbance of the beginning of the second section. Every measure ends with a V in some key that resolves to the tonic on the following downbeat (except for

one deceptive resolution); some of these tonics serve as pivot chords, leading to new key areas.

EXAMPLE 23.3: Corelli, Allemanda, from Trio Sonata in A Minor, mm. 13–20

In this simple continuous binary form, section **A** ends inconclusively with a Phrygian cadence (Figure 23.3). All the remaining "cadences" in the movement are elided until the last one, and only the last four measures of the second section (mm. 24–28) are in the tonic key of A minor. Compare the diagram

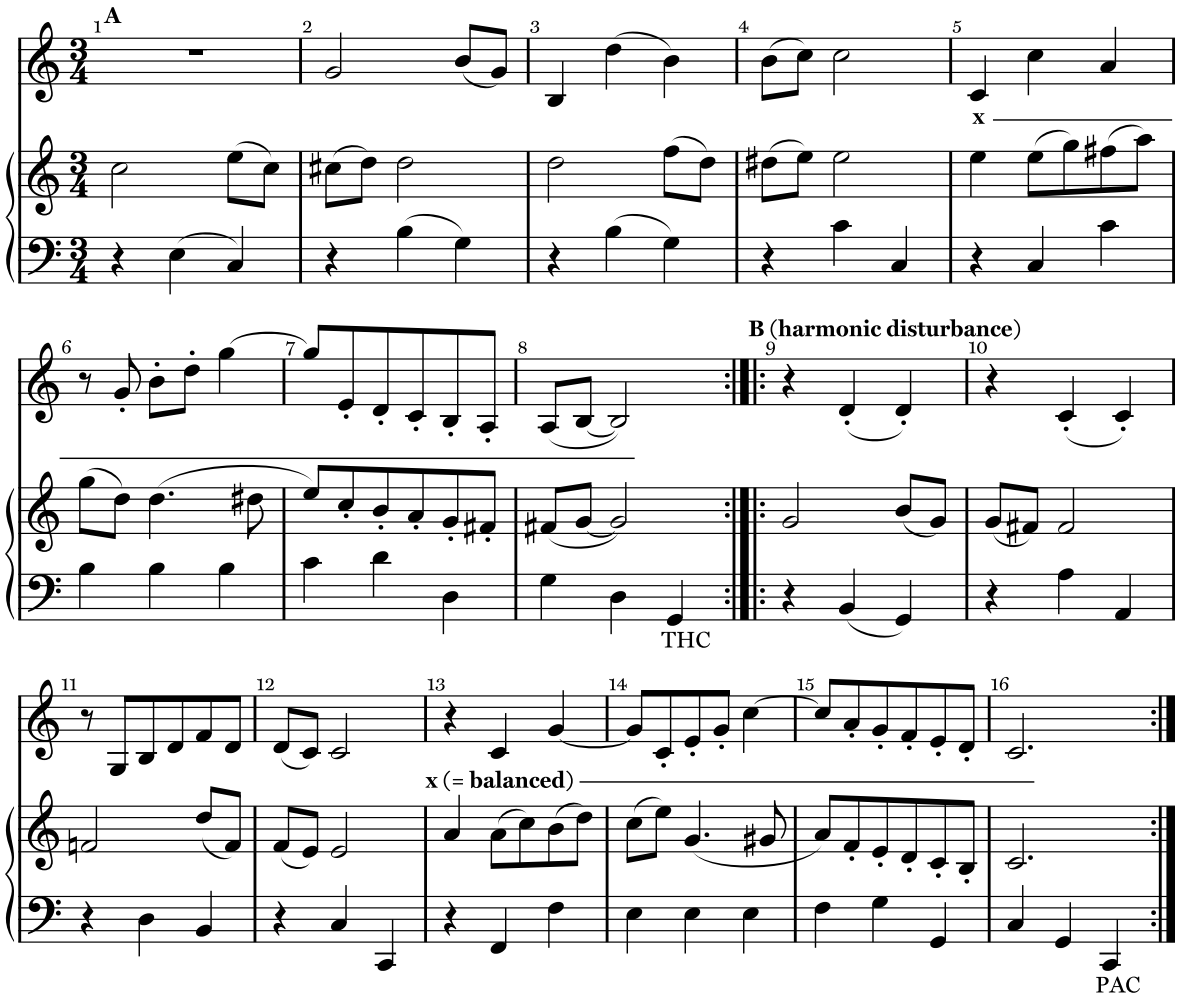
with your anthology score.

FIGURE 23.3: Key areas and binary form in Corelli, Allemanda


Section A
Section A′
‖: a → C → a :‖: C → e → G → d → C → sequence → a :‖
i III i V (III v VII iv III) i i
(tonic opening)
(Phrygian cadence)
(harmonic instability)
(PAC)
mm. 1 4 7 13 15 17 19 20 22 24

In simple continuous binary movements (either 𝄆: **A** :𝄇: **B** :𝄆 or 𝄆: **A** :𝄇: **A**′ :𝄆), material from the *end* of the first section may return at the end of the second, transposed to the tonic key. In such cases, we say that the two sections are **balanced**. Example 23.4 shows balanced endings to the two reprises in a minuet for violin and piano by Mozart. Listen for the themes in the piano; the violin plays a countermelody. This design can be diagrammed as 𝄆: **A** (x) :𝄇: **B** (x) :𝄆, or 𝄆: **A** (x) :𝄇: **A**′ (x) :𝄆, where x represents the material that returns. In balanced designs, the return of this material can be quite memorable and can engage a substantial passage of music, not just a cadential pattern. (The term "balanced" is not applied to a rounded continuous binary, however, even if there is a return of cadential material.) In Mozart's minuet, the material in measures 5–8 reappears transposed in 13–16, with the piano part nearly identical and the violin part slightly varied.

EXAMPLE 23.4: Mozart, Sonata for Violin and Piano in C Major, Menuetto I, mm. 1–16

Simple continuous binary with balanced sections

SUMMARY

Binary forms are labeled according to their harmonic structure and thematic design. Focus on these areas to determine the appropriate label.

Harmonic structure, first half

- If it ends on the original tonic: sectional.
- If it ends on anything other than tonic: continuous.

Thematic design, second half

- If it contrasts with the first half: simple binary (**𝄆: A :𝄇: B :𝄇**).

- If the harmonic disturbance develops material from **A**: also simple binary (𝄆: **A** :𝄇𝄆: **A**′ :𝄇).
- If it brings back material from **A** in the final phrase, following the harmonic disturbance: rounded binary (𝄆: **A** :𝄇𝄆: **B A**′ :𝄇).
- If it is continuous and brings back material from the end of **A** transposed to the tonic key: sections are balanced (𝄆: **A** (x) :𝄇𝄆: **B** (x) :𝄇).

Writing Binary-Form Pieces

You have already learned most of the techniques needed to compose short binary-form pieces: in Chapter 22, you wrote opening sections that modulate, and you are by now familiar with basic phrase progressions, which usually form the final phrase of the second section. We now focus on how to compose the harmonic disturbance for the beginning of the second section.

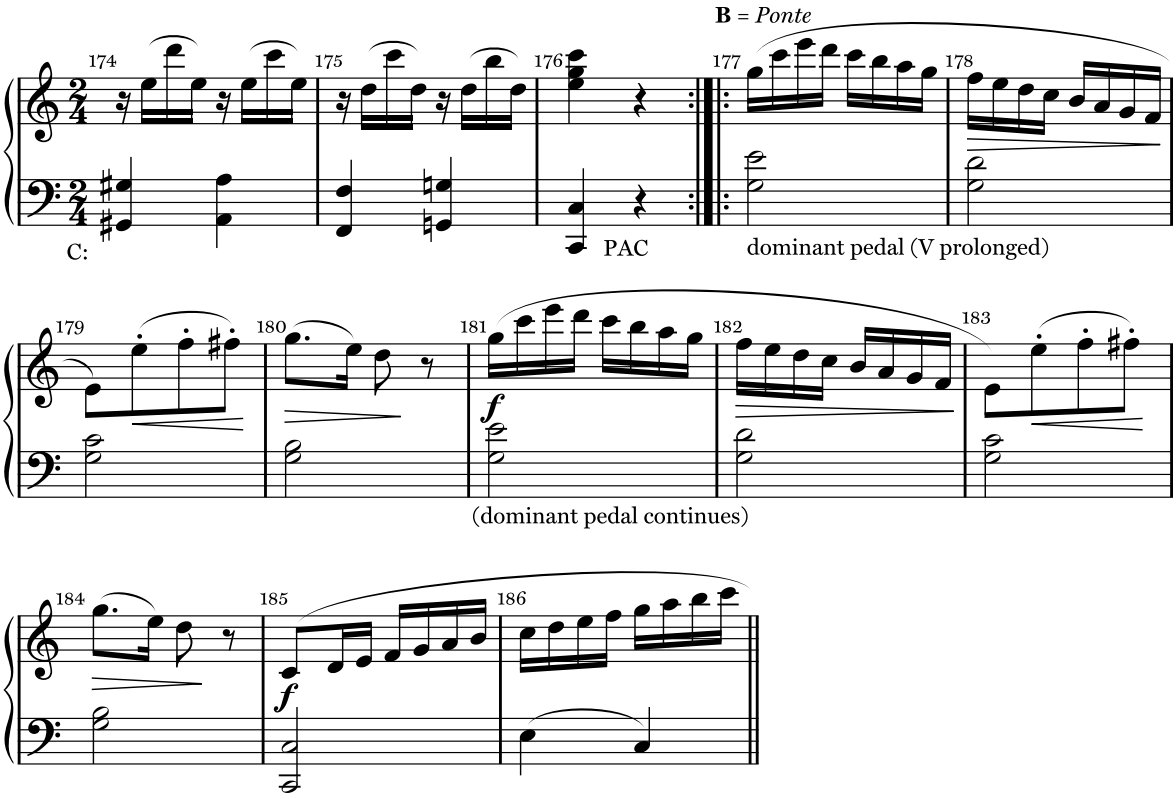
To help his students learn how to write this part of a short binary-form piece, Austrian theorist and composer Joseph Riepel (writing in 1755) suggested three strategies, and gave them rhyming Italian names to help students remember them. These are not the only possible progressions, but they suit our purposes nicely. All three are followed by a final phrase that begins and ends in the tonic.

1. *Ponte* (bridge): V | V | V$^{8-7}$ | I |

This first progression is called *Ponte* because it spans the measures with a prolonged dominant harmony; it works well when the first section closes in the tonic key (sectional). Since it is not very interesting harmonically, you would need to re-voice the chords or provide melodic interest. In Example 23.5, for instance, the **A** section ends with a PAC in the original tonic key, C major (mm. 175–176); the **B** section then proceeds with a

repeated four-measure unit, with a dominant pedal point in the left hand and scalar flourishes in the right to provide melodic interest. In measure 184, the theme returns (making a rounded form) in the tonic key.

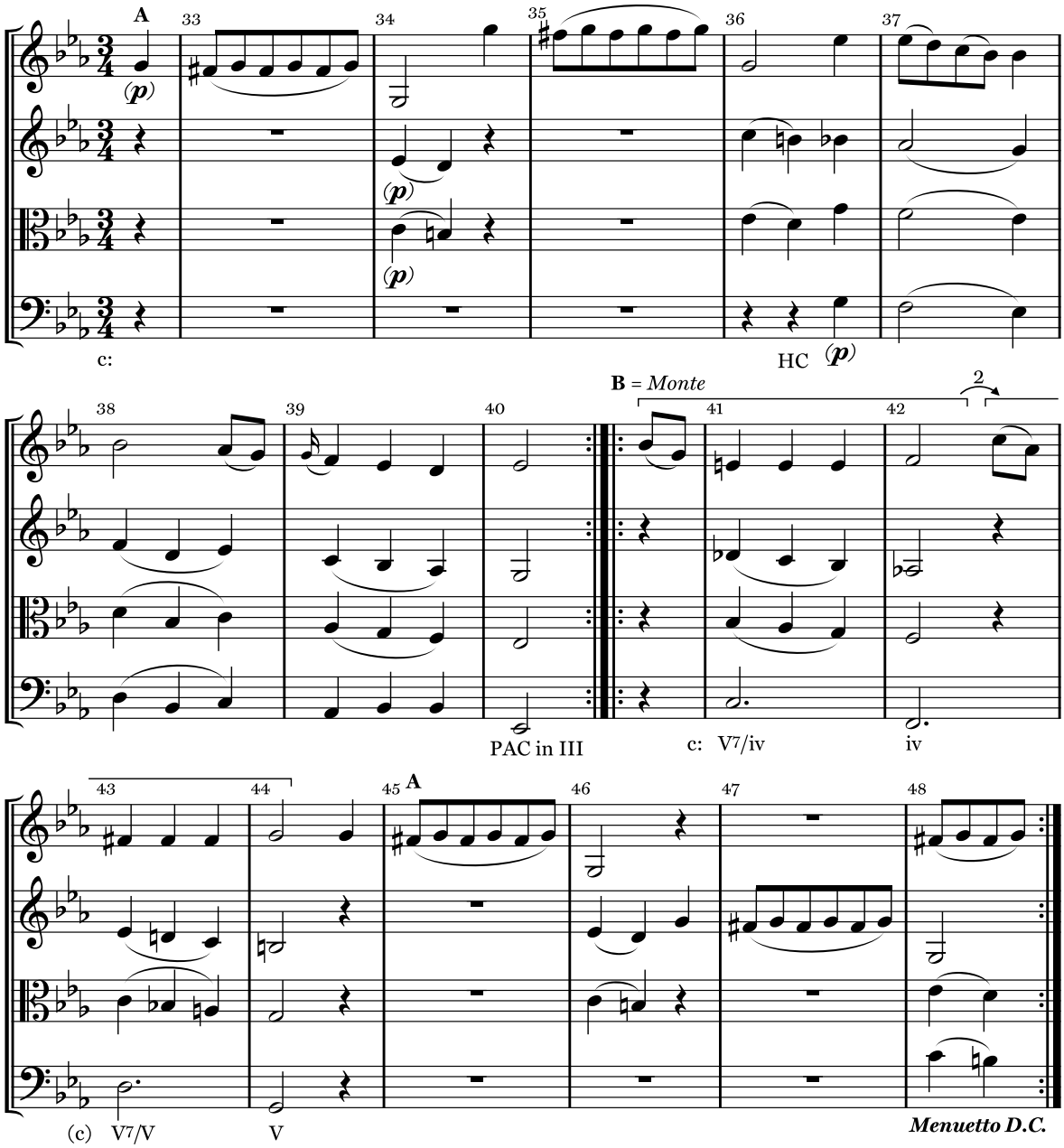
EXAMPLE 23.5: Mozart, *Variations on "Ah, vous dirai-je Maman,"* mm. 174–186



2. *Monte* (mountain): e.g., V7/IV | IV | V7/V | V |

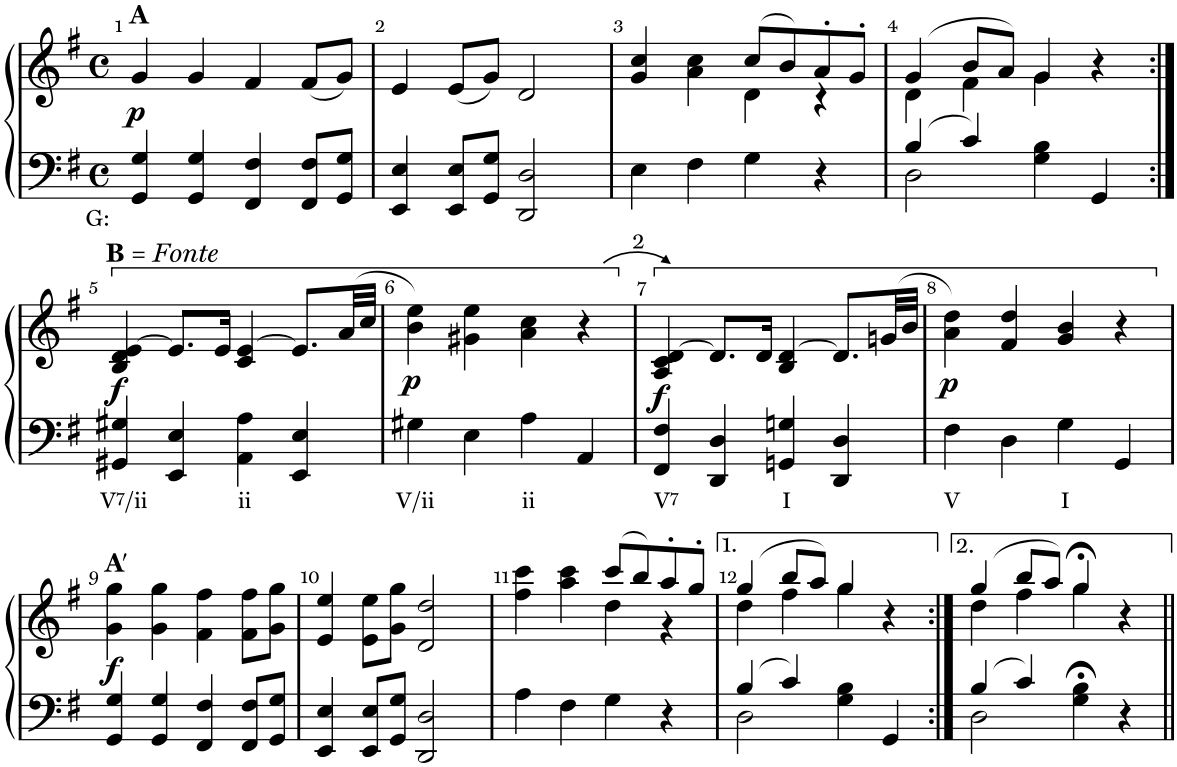
The second progression is called *Monte* because it sounds like a hiker gradually climbing a steep incline; it works well with any of the options for ending the first section, and should include an ascending melodic sequence to highlight the climbing effect. At the beginning of the second large section in Example 23.6 (mm. 41–44), there is a two-measure sequence pattern transposed up by step. You can recognize a *Monte* by

its two-chord pattern (a triad preceded by its own dominant) and the pattern's sequential repetition–up a step (from IV to V). It may also be transposed to other pitch levels within the key–for example, V/V | V | V/vi | vi, or V | I | V/ii | ii.

EXAMPLE 23.6: Mozart, String Quartet in C Major, mvt. 2, Trio (mm. 33–48)

3. *Fonte* (fountain): e.g., V7/ii | ii | V7 | I |

The third progression is called *Fonte* because it sounds like water bubbling from one level of a fountain down to another, and it usually includes a melodic sequence to highlight the bubbling-down effect. You can recognize *Fonte* by its two-chord pattern (a triad preceded by its own dominant) and the pattern's sequential repetition–down a step (from ii to I, in major keys only). This progression may appear transposed to

other pitch levels, such as V/iv | iv | V/III | III in minor keys. In Example 23.7, Mozart repeats the V/ii to ii progression (within a two-measure sequence, mm. 5–6) before repeating the V to I.

EXAMPLE 23.7: Mozart, *Variations on "Unser dummer Pöbel meint,"* mm. 1–12

These are by no means the only options for the harmonic disturbance in a binary form. Another possibility is a segment of the descending-fifth sequence—as in measures 9–10 of Example 23.1. In minor-key pieces, the harmonic disturbance may be in the relative major or minor dominant, leading to a modulation back to the tonic with a half cadence on V, or with a cadence in the temporary key followed by a direct modulation to the tonic at the beginning of the next phrase.

Try it #2

Try it #2

For each binary form shown in the examples above, circle the appropriate terms.

Show answers

In Example 23.5 (see anthology for the complete Variation VII), the binary is (a) sectional (b) continuous (c) simple (d) rounded.

In Example 23.6, the binary is (a) sectional (b) continuous (c) simple (d) rounded.

In Example 23.7, the binary is (a) sectional (b) continuous (c) simple (d) rounded.

Simple Ternary Form

Another common musical form, comprising three distinct sections, is called **ternary form**. Listen to two pieces from Schumann's *Album for the Young*, "Trällerliedchen" and "Volksliedchen," while following the scores in the anthology. Figures 23.4 and 23.5 show the form of each piece. Brief ternary-form pieces like these are sometimes called **simple ternary**.

In simple ternary form (**A B A** or **A B A′**), the first large section, **A**, usually begins and ends in the tonic, with a conclusive cadence at the end. In both of these pieces, **A** spans measures 1–8, and is a parallel period (**a** = mm. 1–4; **a′** = mm. 5–8) beginning and ending in the tonic key (C major and D minor, respectively). The middle section, **B**, is normally in a contrasting key, usually closely related or the parallel major or minor (more distant keys in Romantic-era ternary forms).

The **B** section (mm. 9–16) in "Trällerliedchen" is a parallel period (**b** = mm. 9–12; **b′** = mm. 13–16) in G major (V), ending with a PAC (harmonically "closed," sectional); while that in "Volksliedchen" is a repeated phrase (**b** = mm. 9–12; **b** = mm. 13–16) in D major (the parallel major). This repeated phrase ends with a HC, leaving the **B** section harmonically "open" (continuous)—though it is firmly in the key of D major throughout and is not unstable or sequential as a **B** section in a rounded binary would be.

FIGURE 23.4: Sectional ternary form in "Trällerliedchen"

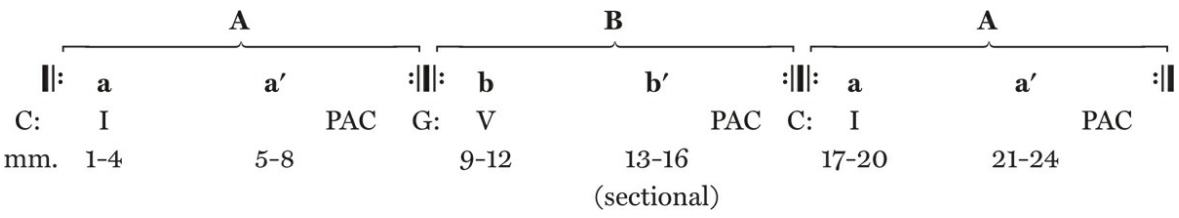
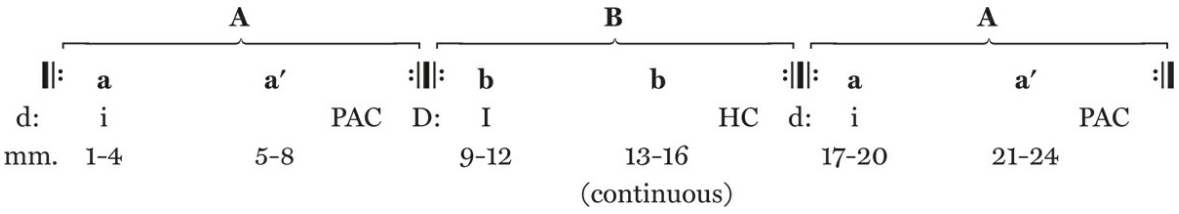
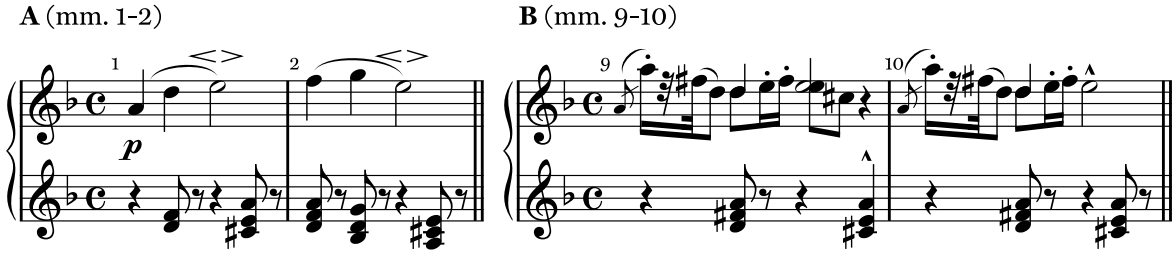


FIGURE 23.5: Continuous ternary form in "Volksliedchen"

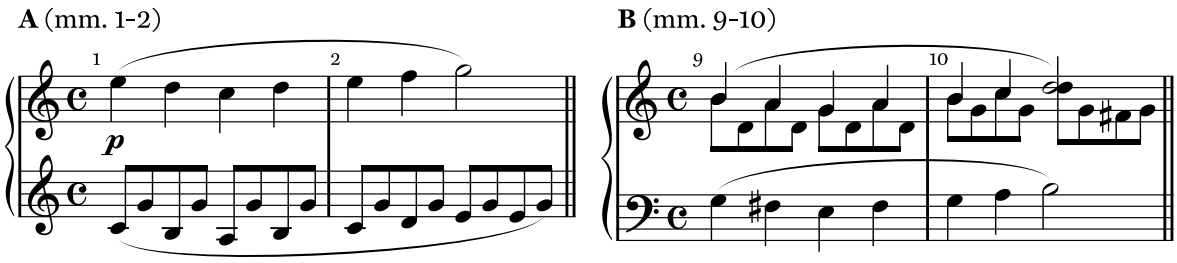


The **B** section in a ternary piece often contrasts with **A** in at least one way in addition to its change of key—in its motives, texture, or harmonic complexity, for example. In "Volksliedchen" (Example 23.8), the **B** section contrasts sharply in mood, with a change in mode and different melodic motives—but with a chordal left hand part that is similar to the **A** section's. In "Trällerliedchen" (Example 23.9), the melodies in the two hands are reversed in the **B** section, which is otherwise similar in texture to **A**; its primary contrasting feature is the change of key.

EXAMPLE 23.8: Schumann, "Volksliedchen"
(a) (b)



EXAMPLE 23.9: Schumann, "Trällerliedchen"
(a) (b)



Individual sections in ternary form may be brief—as little as two phrases—or quite long. The three sections are usually balanced in length, as they are in the Schumann pieces, but they don't have to be. Sections may be repeated (with or without first and second endings or written-out repeats), but often, as here, they are not.

KEY CONCEPT Simple ternary form may be distinguished from rounded binary by observing

- the key and character of the **B** section: in simple ternary form, **B** is usually more stable, in its own contrasting key; the beginning of **B** in binary form is often unstable, sequential, or modulatory.
- the length of the **B** section: **B** is often longer in ternary forms than in rounded binary.
- the repetition pattern: in ternary form, **B** and the return of **A** (or **A′**) are never repeated together as a pair; if any section is repeated, it is repeated by itself.

Figure 23.6 shows the possible harmonic designs of ternary pieces. In the Baroque and Classical styles, the **B** section normally is harmonically stable in one key and will not modulate; in later (and larger) Romantic pieces, it is possible to have more than one key in **B**. When all sections are harmonically closed, the form is called **full sectional ternary**.

FIGURE 23.6: Possibilities for sectional closure in ternary form

A	**B**	**A** or **A′**	When common
harmonically closed (sectional)	harmonically closed (sectional)	harmonically closed (sectional)	Baroque, Classical, and Romantic eras, simple or composite ternary (see below)
harmonically closed (sectional)	harmonically open (continuous)	harmonically closed (sectional)	Romantic era, simple or large ternary (Chapter 33)
harmonically open (continuous)	harmonically open (continuous)	harmonically open (continuous)	Romantic era, large ternary

Sometimes when the **A** section returns after **B**, unchanged from its original appearance, it is not written out but instead indicated by the words *Da capo al Fine*, written at the end of the **B** section. This marking tells the performer to play from the "head" (*capo*), or beginning of the piece, to the word *Fine* (end) at the end of the **A** section. Another indication, *Dal segno al Fine*, means that an anacrusis or introduction at the beginning of the **A** section should be skipped on the repeat (*segno* means "sign"). These indications were such a common way of saving paper in opera scores that ternary arias (solo songs within operas) are referred to as **da capo arias**, a song form to be covered in more detail in Chapter 28.

Binary Forms as Part of a Larger Formal Scheme

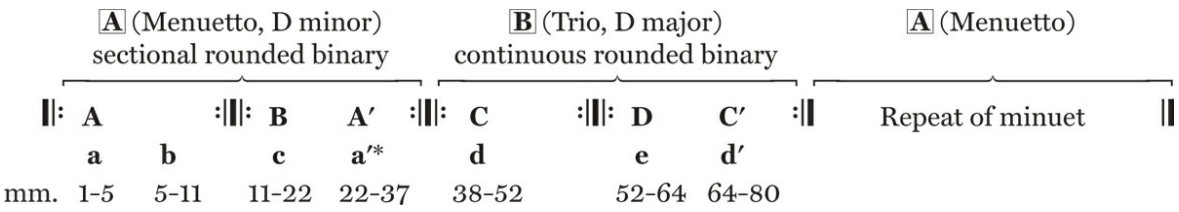
Composite Ternary

Although a binary form can be complete and freestanding, it can also function as part of a larger work. For example, themes for sets of "sectional variations" are often written in rounded binary form (see Chapter 25).

Sometimes two binary forms in contrasting keys are combined to make a large ternary design: an example is a minuet and trio (or scherzo and trio) movement in a sonata, string quartet, or other multimovement work. This design is called "composite ternary": ternary because of the large three-part form (minuet-trio-minuet), and composite because it combines shorter binary forms. In Figures 23.7 and 23.8, the highest-level letters are boxed to distinguish them from the letters on the next level, the **A** and **B** sections of the individual binary forms.

Listen to the Menuetto and Trio from Haydn's String Quartet in D Minor (anthology) for an example. As is typical for a minuet or scherzo, the first large section (**A**) is a complete binary form (in this case, sectional rounded binary) and is followed by a trio (**B**), also in binary form, in a contrasting key or mode—here, a continuous rounded binary in the parallel major key. In this movement, the minuet and trio differ in style as well, with "learned" counterpoint in the minuet contrasting with a rustic country dance in the trio. In performance, the movement concludes with a repetition of the initial minuet, either complete (**A** again) or without taking the internal repeats. The indication to return to the beginning and repeat **A** is given at the end of the trio as M.D.C, or "Menuetto da capo."

FIGURE 23.7: Composite ternary in Haydn's Menuetto and Trio

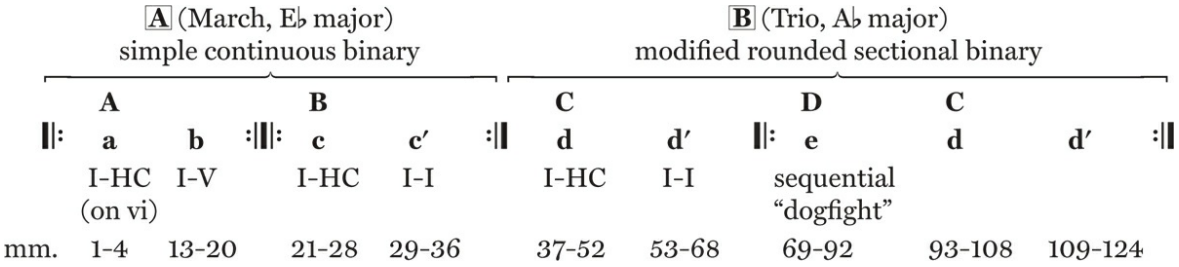


*This **a**′ section is unusual, in that it also includes thematic elements from **c**.

Composite Binary

Composite binary forms may be found in marches, ragtime, and other types of pieces. Listen to "The Stars and Stripes Forever" while following the score in your anthology. This work is typical of band marches, with an opening section (March) in the tonic key (E♭), followed by a Trio in a contrasting key (A♭). Follow the diagram below as you listen. As indicated, the March section is a simple continuous binary form and could be played as a complete piece on its own; likewise, the Trio is a rounded sectional binary form and could stand on its own. In marches, the **A, B, C**, and **D** sections are sometimes called **strains**.

FIGURE 23.8: Composite form in Sousa's march



While Sousa's March is fairly standard in its tonal and thematic design, the lengthy and elaborate Trio presents some

features worth noting. First, the "repeat" in the first section (**C**) is written out because of differences in ways the phrases end. Measures 37–40 and 53–56 are identical, but 41–52 are directed toward half cadences in 44 and 51, while 57–68 diverge to tonicize the submedient (F minor) before moving toward the tonic PAC in 68. Second, the Trio's second section (**D**) presents an energetic chromatic and sequential texture that in marches and rags is sometimes called the "dogfight"—a term that aptly characterizes its nature!

The usual formal schemes for marches and rags are similar to composite ternary, except that they have two large sections instead of three—there is no final return of **A** at the end—and within the large sections, the binary forms may be modified. Occasionally, you will find a rag or march in a composite form where one of the embedded smaller forms is ternary rather than binary.

Did You Know?

In the Classical era, the components of binary form were so well established that binary pieces could be composed by throwing dice (or other random procedures) to select the phrase beginnings, cadences, and sequences to "plug in" to the formal model. Composing a variety of different pieces from a few stock segments was called *ars permutoria*—the art of combination and permutation. For example, to make an eight-measure parallel period for section **A** of a binary form, a composer could

- select a two-measure phrase beginning;
- select a standard two-measure inconclusive cadence;
- repeat the two-measure opening;
- choose a standard two-measure conclusive cadence.

For a rounded binary form, the composer could choose a

four-measure sequence to begin section **B**, then arrange a four-measure concluding phrase from the components of **A** to make a sixteen-measure piece—all selected by "chance."

TERMS YOU SHOULD KNOW

binary form
- balanced
- continuous
- rounded
- sectional
- simple
- simple with balanced sections

composite binary
design
Fonte
minuet and trio
Monte
Ponte
scherzo and trio
strain
structure
ternary form
- composite ternary
- full sectional ternary
- simple ternary

QUESTIONS FOR REVIEW

1. What is the basic principle of binary form?
2. What are the most common harmonic structures for the first section (**A**) in a binary form in major keys? in minor keys?
3. What are the most common harmonic structures for the

second section (**B**) in a binary form in major keys? in minor keys?

4. Where are you most likely to find a sequence in a binary-form piece? Where are you most likely to find a modulation?
5. What is the difference between simple binary and rounded binary?
6. What distinguishes simple ternary and rounded binary?
7. What is the difference between simple ternary and composite ternary?
8. How are binary forms used in composite ternary pieces?
9. In music for your own instrument, find one piece in simple binary form and one in rounded binary. How can you use the date of composition to help you locate a piece of each type?
10. What larger forms incorporate smaller binary forms within them?

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24 Invention, Fugue, and Baroque Counterpoint

Outline

Baroque melody
- *Fortspinnung*
- Compound melody and step progressions

Invention and fugue: The exposition
- The subject
- The answer and countersubject

Episodes and later expositions

Special features
- Double and triple fugues
- Stretto
- Inversion, augmentation, diminution, and other subject alterations
- Canon
- Vocal fugues

Overview

This chapter focuses on Baroque-era inventions, fugues, and canons. We also consider melodic aspects of Baroque style,

including phrase structure, motivic variation, compound melody, and embellished sequences.

Repertoire

Johann Sebastian Bach

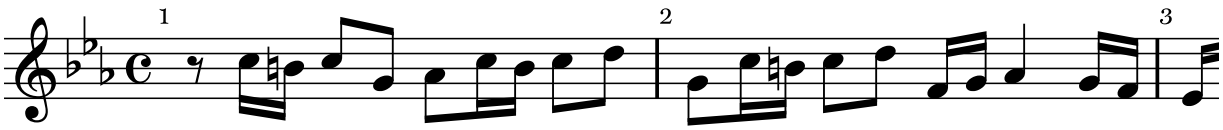
- Fugues from *The Well-Tempered Clavier*, Book I: C Major, C Minor, D♯ Minor
- Fugue in E♭ Major for Organ (*St. Anne*)
- Invention in C Minor
- Invention in D Minor
- Cello Suite No. 2 in D Minor, Prelude

Wolfgang Amadeus Mozart, Kyrie, from *Requiem*

Baroque Melody

Fortspinnung

Listen to Bach's C Minor Fugue (anthology), and consider its phrase structure. The opening musical idea, or subject, on which the fugue is based is shown in Example 24.1.

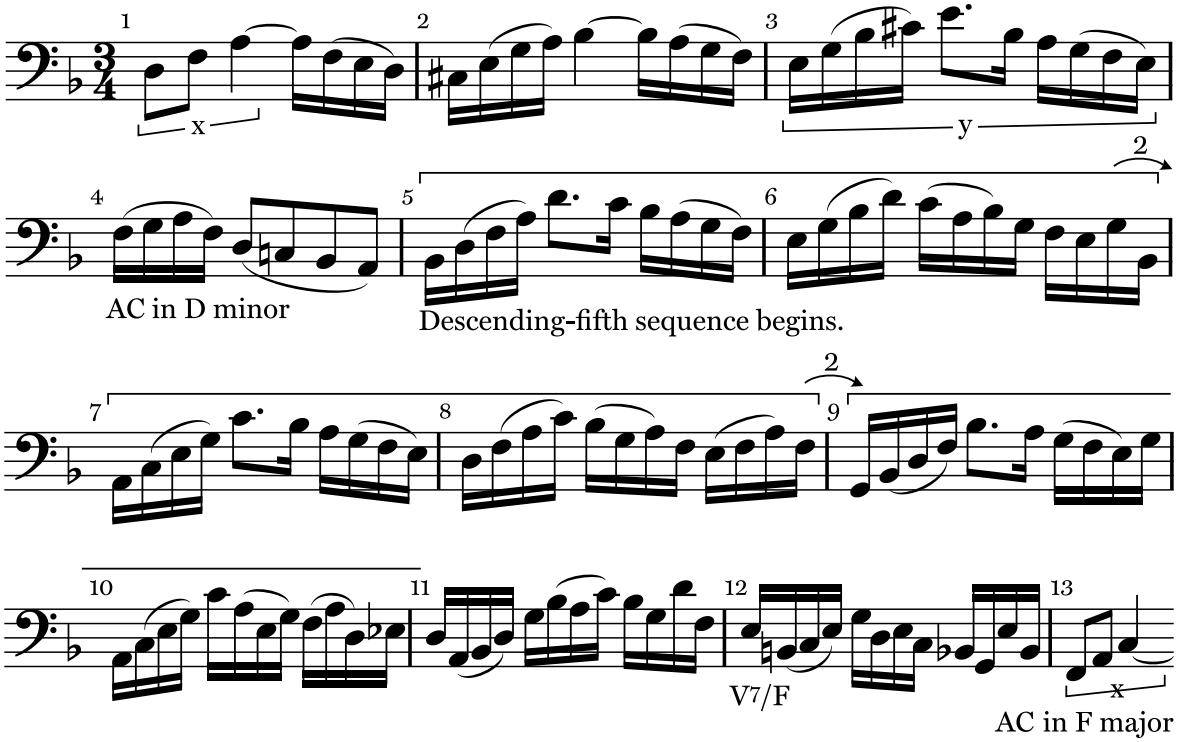
EXAMPLE 24.1: Bach, Fugue in C Minor, mm. 1–3 (subject)

Compared with the binary- and ternary-form compositions we studied in Chapter 23, the music of this fugue shows no obvious breaks or stopping points. Instead it flows on, with the melody "spinning out" motives introduced in the first measures, until the final cadence. This melodic technique, called by its German name, *Fortspinnung*, is found in Baroque preludes, fantasias, and fugues, as well as in choral works and larger instrumental forms. While the opening idea is short—only two measures—the musical line doesn't stop in measure 3 but continues in sixteenth notes as the next voice is added. *Fortspinnung* passages can be quite beautiful; part of their excitement resides in their unpredictable harmonies and their development of motivic material.

KEY CONCEPT *Fortspinnung* passages are characterized by continuous motion, unequal phrase lengths, melodic or harmonic sequences, changes of key, and elided phrases. To analyze such passages, focus on identifying cadential

goals and sequence types, but don't expect equal phrase lengths.

Now listen to the beginning of the Prelude from Bach's Cello Suite No. 2 (Example 24.2); listen for harmonic motion and phrase boundaries, and identify any repeated motives.

EXAMPLE 24.2: Bach, Prelude, from Cello Suite No. 2 in D Minor, mm. 1–13



The opening motive in measure 1—we'll call it x—expresses an ascending eighth-note D minor triad, which returns in measure 13 in a new key. Measure 3 introduces motive y, another ascending arpeggio leading to a dotted-eighth high point, followed by descending sixteenths.

The task of identifying phrases in unaccompanied solo music like this is challenging, in part because you must infer the harmonic structure from the melody. In addition, there are few pitches of longer duration and no rests to identify phrase

endings, since the rhythmic structure is mostly continuous sixteenth notes. The moment of "repose" at a cadence may be only a sixteenth note—the end of one phrase is connected to the next through an elision—keeping the motion constant. Sequences also contribute to creating longer phrases.

Still, judging by the location of cadences, we can determine that this passage consists of a four-measure phrase followed by a nine-measure phrase, with the second phrase characterized by a descending-fifth sequence. The sequence pattern, two measures long, features motive y in alternate measures (mm. 5, 7, 9), each time sounding a step lower. The sequence leads to the change of key to the relative major, F (m. 13), eliding with the beginning of the next phrase, with the x motive helping to make the connection.

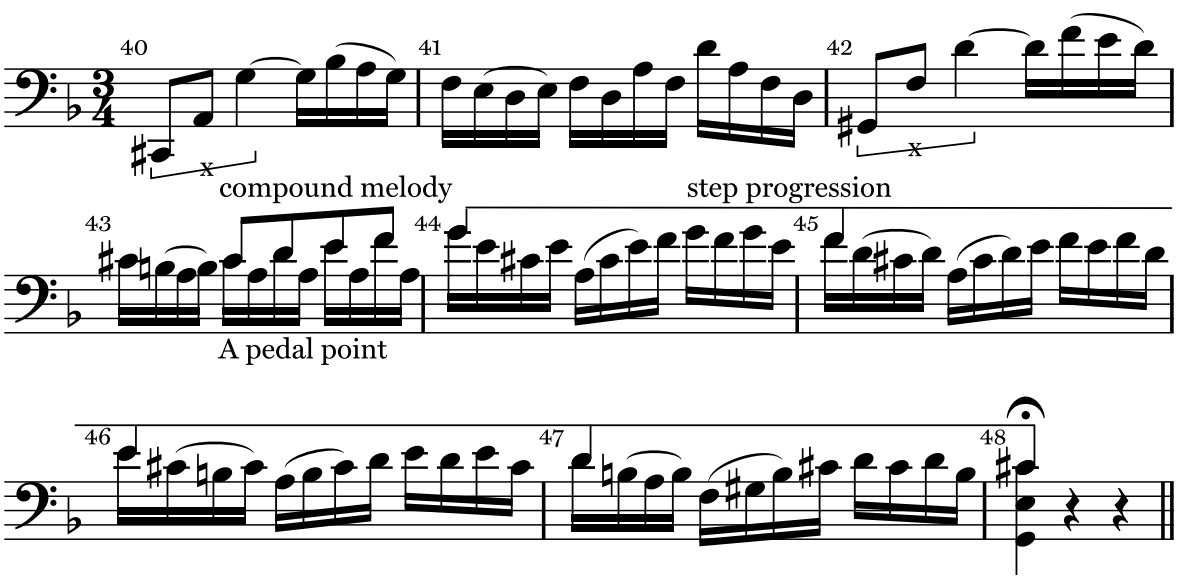
Compound Melody and Step Progressions

In Baroque melodies, a single-line instrument like the cello may create the effect of several melodic strands or even a four-part harmonic progression.

KEY CONCEPT When two or more musical lines are expressed within a single melody, this technique is called **compound melody**.

The underlying melodic lines in a compound melody may be simple and obvious, as in an arpeggiated accompaniment, or very complex, as in Bach's solo violin and cello suites. Listen to Example 24.3, noting the analytical markings.

EXAMPLE 24.3: Bach, Prelude, from Cello Suite No. 2 in D Minor, mm. 40–48



Most striking at the beginning of the example is the development of motive x, transformed from a perfect fifth (D3–F3–A3) to a diminished twelfth (C♯2–A2–G3). The registral shifts from measures 40–42 set up a clear example of compound melody in 43–44—where the cello's repeated A3 (the dominant) becomes a lower-voice pedal point on the sixteenth-note offbeats, while the upper voice climbs by step from C♯4 to G4.

Another technique for writing compound melody is seen in measures 44–48, where the first pitch of each measure creates a stepwise line—G4, F4, E4, D4, C♯4. This technique, sometimes called a **step progression**, can be marked by stems as in the example. The entire progression prolongs the dominant harmony, as beat 2 of 44–46 touches on a lower-voice A3. If you play the whole passage while singing an A pedal point, the underlying harmonic framework becomes clearly audible. Cellists who can simultaneously convey the dominant prolongation and the different voices of the compound melody will create an exciting approach to the half cadence in measure 48.

Both these types of melodic motion—*Fortspinnung* and compound melody—are essential to fugues, inventions, and other Baroque compositions. After the Baroque era, *Fortspinnung* phrase structure, with its dramatic

unpredictability and usefulness in connecting key areas, may be found in sonata forms and in improvisatory pieces such as fantasias.

Invention and Fugue: The Exposition

Baroque fugues and inventions are based on the exploration of an initial melodic idea, called the **subject** (abbreviated S or subj), which establishes the main key and mode, and provides the primary motives for the entire piece. Since part of the joy in listening to a fugue or invention is tracing the path of the subject through various keys and transformations, the subject is presented several times at the beginning to allow listeners to remember it, with each entry introducing one of the parts, or "voices," of the piece. **Inventions** are written in two voices (three-part inventions are usually called **sinfonias**); **fugues** might have three to five voices. The initial section, where the subject is presented in each voice, is called the **exposition**.

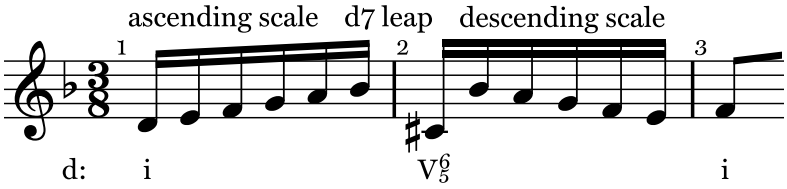
The Subject

The subject of an invention or fugue must be immediately recognizable—with a distinctive contour and a memorable rhythmic pattern—and capable of motivic and rhythmic variation. It may be short (a motive implying one or two harmonies) or several measures long, implying an entire basic phrase harmonic progression. The subject is normally unaccompanied in its first appearance.

Examples 24.4 and 24.5 show subjects from an invention and fugue by Bach. They illustrate two common compositional strategies: scalar subjects and subjects that arpeggiate the tonic triad. The simple but elegant subject from the D Minor Invention (Example 24.4) features a D harmonic minor scale with a leap between ♭$\hat{6}$ (B♭) and the leading tone (C♯). This subject introduces the key and mode through the scale and the implied harmonic progression from tonic to dominant (m. 2) and back to tonic (m. 3), and it also displays a distinctive melodic contour with the diminished seventh leap and

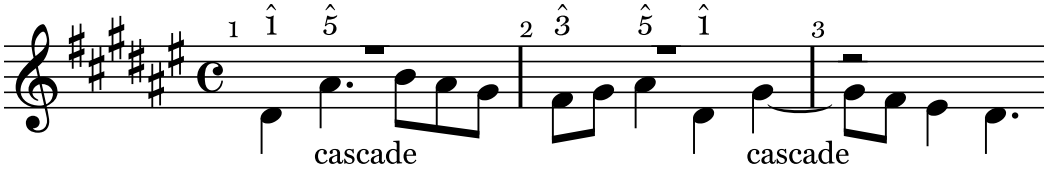
sixteenth-note rhythmic pattern.

EXAMPLE 24.4: Bach, Invention in D Minor, mm. 1–3 (subject)



The subject from the D♯ Minor Fugue (Example 24.5) begins with a memorable ascending-fifth motive, introducing scale degrees $\hat{1}$ and $\hat{5}$. The first two measures emphasize chord tones from the tonic triad, with $\hat{3}$ on the downbeat of measure 2 followed by motion from $\hat{5}$ back to $\hat{1}$, to establish the initial key and mode.

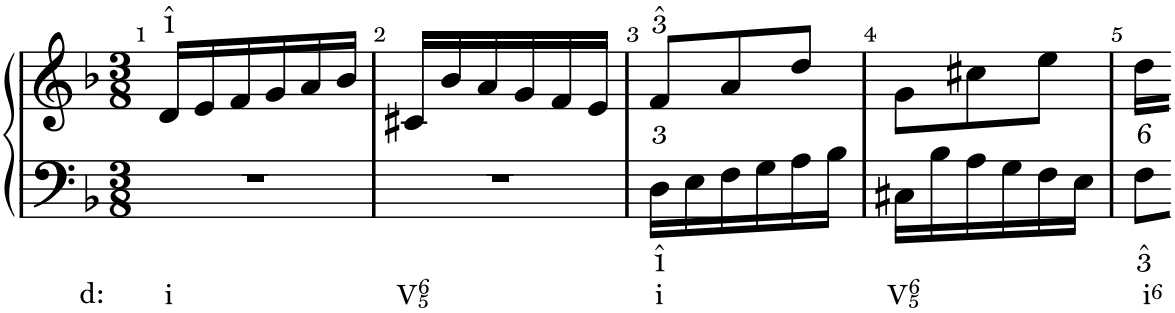
EXAMPLE 24.5: Bach, Fugue in D♯ Minor, mm. 1–3 (subject)



Bach also employs a striking rhythmic motive here: a quarter note tied across the beat to stepwise descending eighths—in measure 1 (notated with a dot instead of a tie) and, crossing the bar line, from 2 to 3. We'll call this the "cascade" motive; the stepwise descending motion makes the subject easy to recognize when it returns later in the fugue.

Once the initial statement of the subject has been made, the exposition continues with additional statements, one for each voice. In two-part inventions, the second presentation of the subject is usually transposed up or down an octave, as in Example 24.6.

EXAMPLE 24.6: Bach, Invention in D Minor, mm. 1–5 (initial exposition)



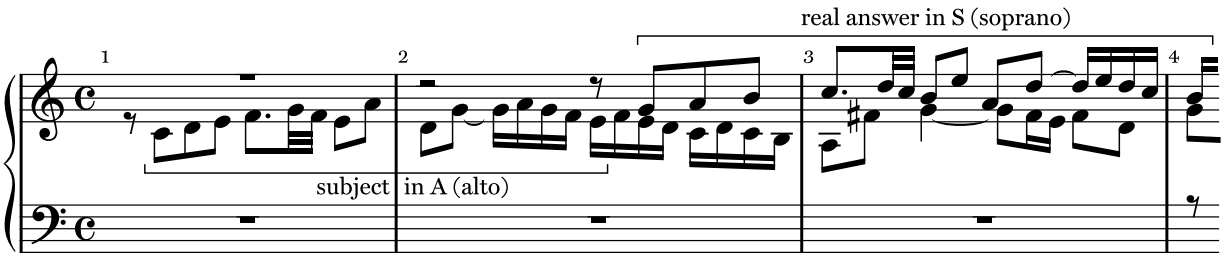
As this example shows, invention subjects often begin with $\hat{1}$ and end on $\hat{3}$, allowing the second part to enter at the interval of a third or sixth. The harmonic implications of the unaccompanied subject become clear as it is set in counterpoint—the upper part in measures 3–4, in combination with the subject, clearly articulates i and V^6_5.

KEY CONCEPT The presentation of a melodic idea in one part that is then answered by the same idea in another part is called a **point of imitation**. The initial point of imitation in an invention is an octave apart; in a fugue, the first two points of imitation are a fifth and octave apart.

The Answer and Countersubject

Real and Tonal Answers A fugue exposition normally begins with the entries of the individual voices, one by one. The second entry of a fugue subject, called the **answer** (abbreviated A or ans), is usually transposed up a fifth or down a fourth. In Example 24.7, the subject ends with $\hat{3}$ (E4) on beat 3 of measure 2, and the answer (transposed up a fifth from C4) enters on G4.

EXAMPLE 24.7: Bach, Fugue in C Major, mm. 1–4

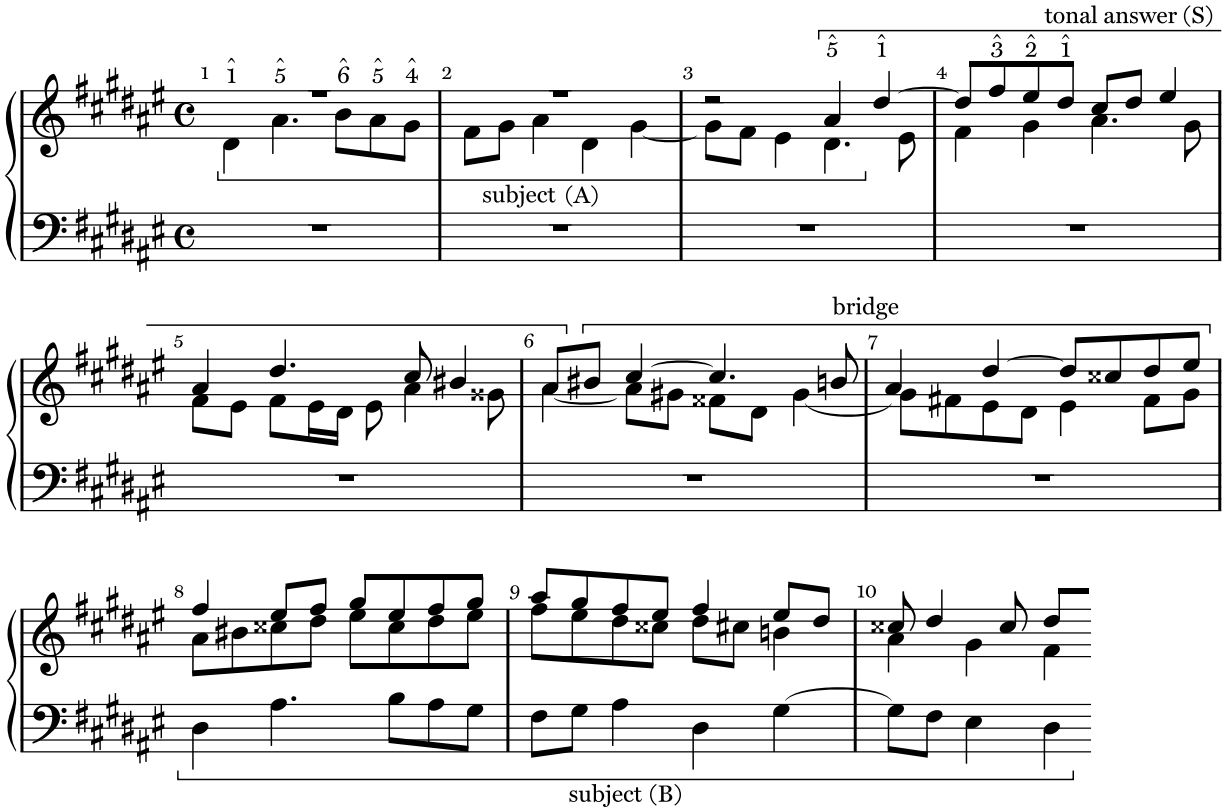


If the subject is transposed exactly, as here, with no changes in the sizes of intervals (though they may change in quality), the second entry is called a **real answer**.

In fugues written for keyboard instruments, each voice is active in a specific part of the keyboard range. For four-voice fugues, use the letters SATB to label each contrapuntal line; for three-voice fugues, use S and B for the highest and lowest parts, and either A or T for the middle, depending on its range. Five-voice fugues may be labeled S1, S2, A, T, B, or some other arrangement. In Example 24.7, for instance, the first two voices of this four-voice fugue enter in the alto and soprano ranges, respectively. While there is no strict guideline for which voice enters first and which second, the parts normally enter in pairs that occupy adjacent spans of the keyboard range: S then A, A then S, B then T, and so on. Another possible strategy in three-voice fugues is to begin in the middle voice, add the voice above, then conclude with voice below (as in Example 24.8).

If the fugue subject emphasizes $\hat{1}$ and $\hat{5}$ at the beginning, the second entry usually answers with $\hat{5}$ and $\hat{1}$, as in Example 24.8. This adjustment, called a **tonal answer**, keeps the beginning of the answer from strongly expressing the dominant key by emphasizing $\hat{5}$ and $\hat{1}$ instead of $\hat{5}$ and $\hat{2}$ (which would result from an exact transposition).

EXAMPLE 24.8: Bach, Fugue in D♯ Minor, mm. 1–10



Other adjustments may also be made in the tonal answer. In Example 24.8, the second interval of the answer (m. 4) is altered: $\hat{5}$–$\hat{6}$ becomes $\hat{1}$–$\hat{3}$ to make a third instead of a step–which preserves the contour of the subject, and allows the tonal answer to begin and end on $\hat{5}$, just as the subject began and ended on $\hat{1}$. These changes make the opening motive (ascending fifth, then step) a contour motive, since its distinctive intervals change in size in the answer. After these initial adjustments, the tonal answer normally continues without alterations, except for accidentals necessary for the dominant key.

SUMMARY

1. A real answer is an exact transposition of the fugue subject up a fifth (or down a fourth).
2. A tonal answer likewise transposes the subject up a fifth, but it modifies the initial intervals and

scale degrees of the subject slightly so that it does not express the dominant key too strongly. For example:

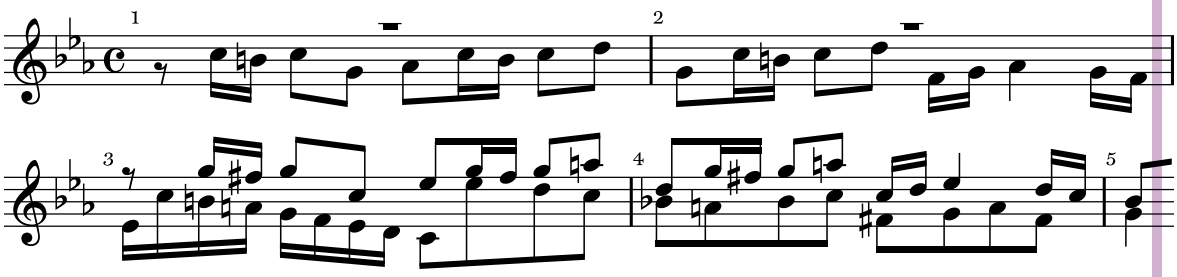
- A leap from $\hat{1}$ to $\hat{5}$ is answered by $\hat{5}$ to $\hat{1}$ (not $\hat{5}$ to $\hat{2}$), and $\hat{5}$ to $\hat{1}$ by $\hat{1}$ to $\hat{5}$.
- A subject that begins on $\hat{5}$ is answered on $\hat{1}$ (instead of $\hat{2}$).
- A subject that begins with $\hat{5}$–$\hat{6}$ is answered with $\hat{1}$–$\hat{3}$.

Try it #1

Examine the subject and answer in this excerpt of the C Minor Fugue. **Show answers**

Circle the answer type: real tonal

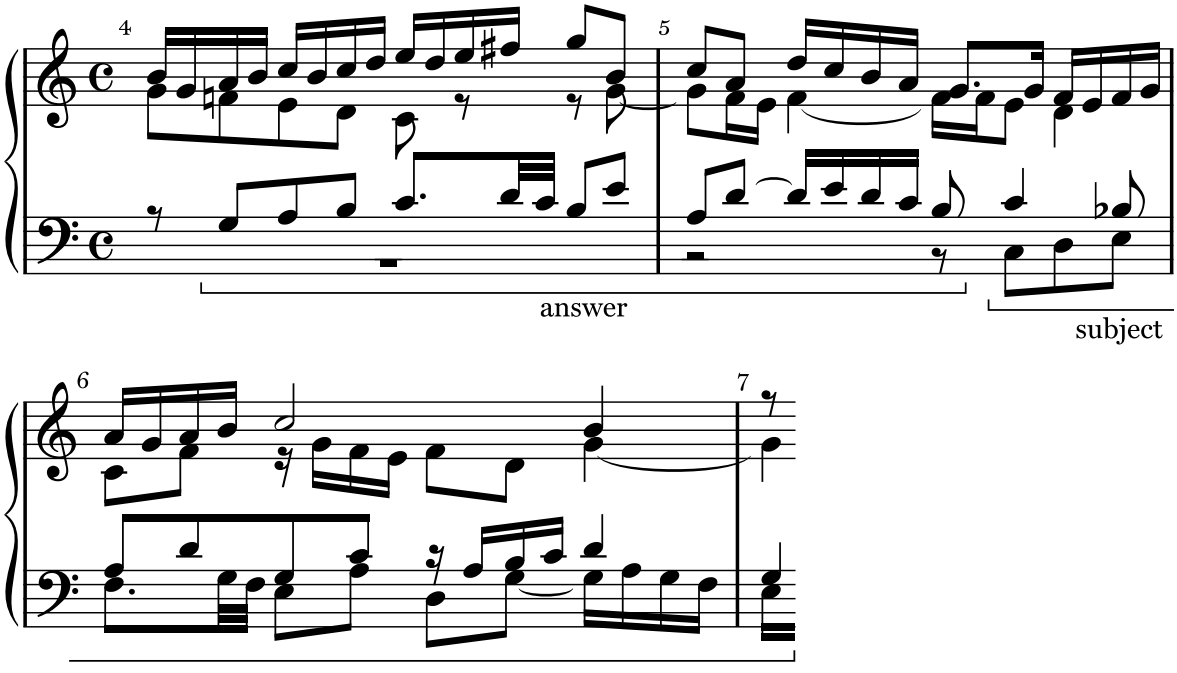
If tonal, what intervals and scale degrees are changed?



Look back at Example 24.8 to find the third entry of this three-voice fugue, in measure 8. The third entry normally presents the subject on the tonic again, and the exposition ends when all voices have presented the subject or answer. Because the answer may introduce accidentals from the dominant key, a

short passage may be needed to prepare for the reappearance of the subject in the tonic. This passage is called a **bridge** if it makes a harmonic adjustment. A rhythmic or metrical adjustment (of only a few beats) to allow the subject to enter in the appropriate part of the measure is called a **link**.

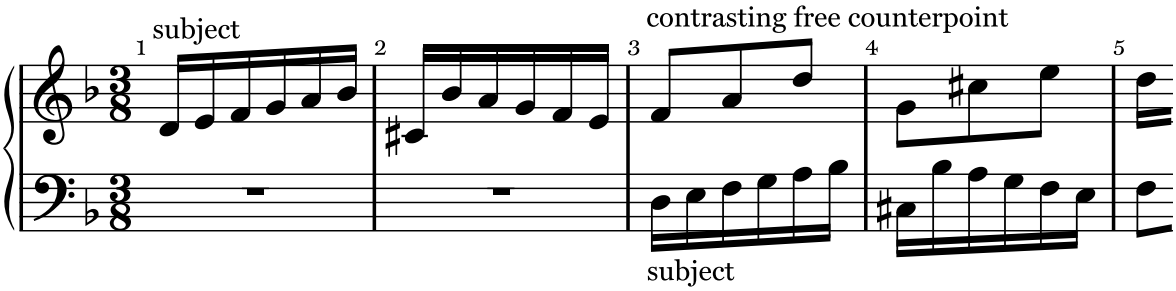
In a four-voice fugue, the fourth entry will usually present the answer immediately following the third-voice subject, to create an exposition design of subject-answer-link-subject-answer. Occasionally, the subject and answer entries may be reversed: in Example 24.9, which follows Example 24.7, the dominant answer precedes the subject as the last two entries (subject-answer-answer-subject). Once each voice has stated the subject or answer, the exposition is concluded.

EXAMPLE 24.9: Bach, Fugue in C Major, mm. 4–7

The Countersubject In the exposition, the second entry of the subject (the answer) is set with counterpoint.

KEY CONCEPT The counterpoint accompanying the subject or answer is called a **countersubject** (abbreviated CS) if it appears consistently with the subject later in the piece. If not, it is called a **free counterpoint**.

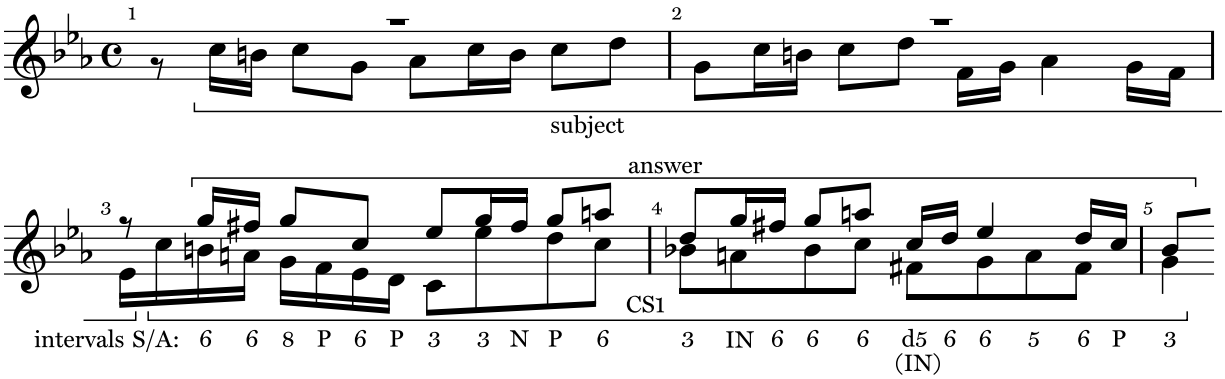
In either case, the counterpoint normally contrasts with the subject in rhythm or contour to keep the two distinct. In Example 24.10, eighth-note arpeggiation in the counterpoint clearly contrasts with the sixteenth-note scalar subject. Later in the invention, a variety of arpeggiated patterns in eighth notes, rather than this exact counterpoint, accompany the invention subject in free counterpoint.

EXAMPLE 24.10: Bach, Invention in D Minor, mm. 1–5



Invertible Counterpoint The countersubject, if present, is usually written in invertible counterpoint with the subject—that is, either one may appear in an upper voice, with the intervals of the counterpoint working properly in either arrangement. For an example, consider the opening of Bach's Fugue in C Minor (Example 24.11).

EXAMPLE 24.11: Bach, Fugue in C Minor, mm. 1–5 (with intervals for invertible counterpoint)

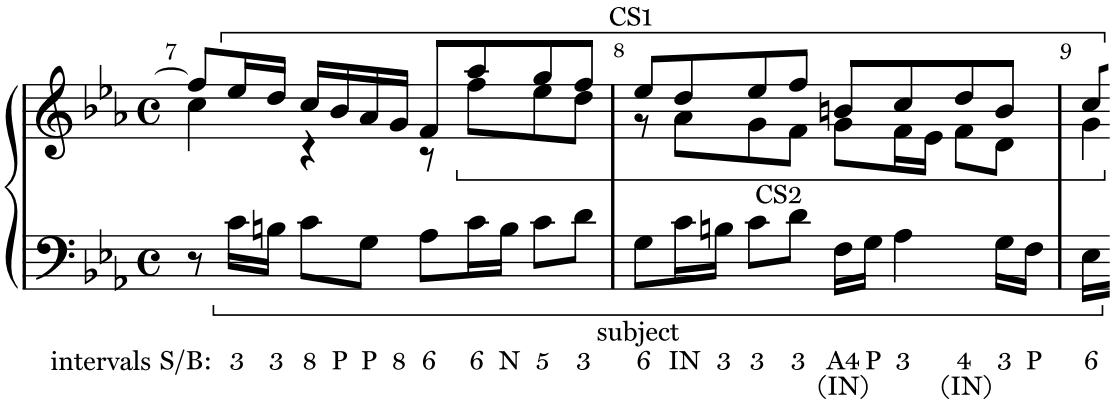


The countersubject in measure 3, beginning with the scale descending from C5, is labeled a countersubject (CS1) because it reappears many times in the course of this fugue.

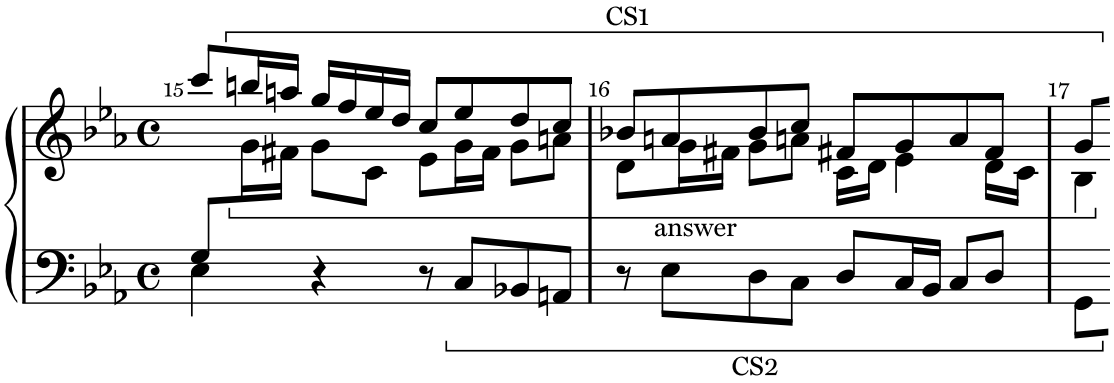
When the third voice enters in the bass (Example 24.12), the countersubject appears in the soprano part, transposed up a third—now above the subject. This fugue is unusual (although not for Bach) in that two countersubjects return consistently throughout: the new counterpoint in measures 7–9 in the alto (CS2) also reappears with the subject and CS1 throughout the fugue. One example of this return is shown in part (b), where the soprano has CS1, the alto the answer, and the bass part CS2. When two parts are set in invertible counterpoint, it is called **double counterpoint**; three voices in invertible counterpoint, as here, are called **triple counterpoint**.

EXAMPLE 24.12: Bach, Fugue in C Minor (triple counterpoint)

(a) Mm. 7–9



(b) Mm. 15–17



You will see that the intervals labeled in Example 24.11 reveal many thirds and sixths, with embellishing tones between them and a d5 on beat 3 of measure 4 that resolves to a third on the downbeat of 5. When the voices are rearranged, these intervals become inverted (Example 24.12a)–for example, the thirds become sixths and sixths become thirds; the term "invertible counterpoint" comes from the idea that when the voices are rearranged, the intervals between them invert. P4s are avoided (unless they can be interpreted as embellishing tones) because they are harmonic dissonances, and P5s are likewise avoided or treated as dissonances because they become fourths when inverted.

SUMMARY

In invertible counterpoint, the pairs of voices often feature the intervals 3 and 6 between the parts (implying triads) or the successions d5–3 and A4–6 (which imply V^7–i). The P4, P5, and dissonances are employed only as embellishing tones.

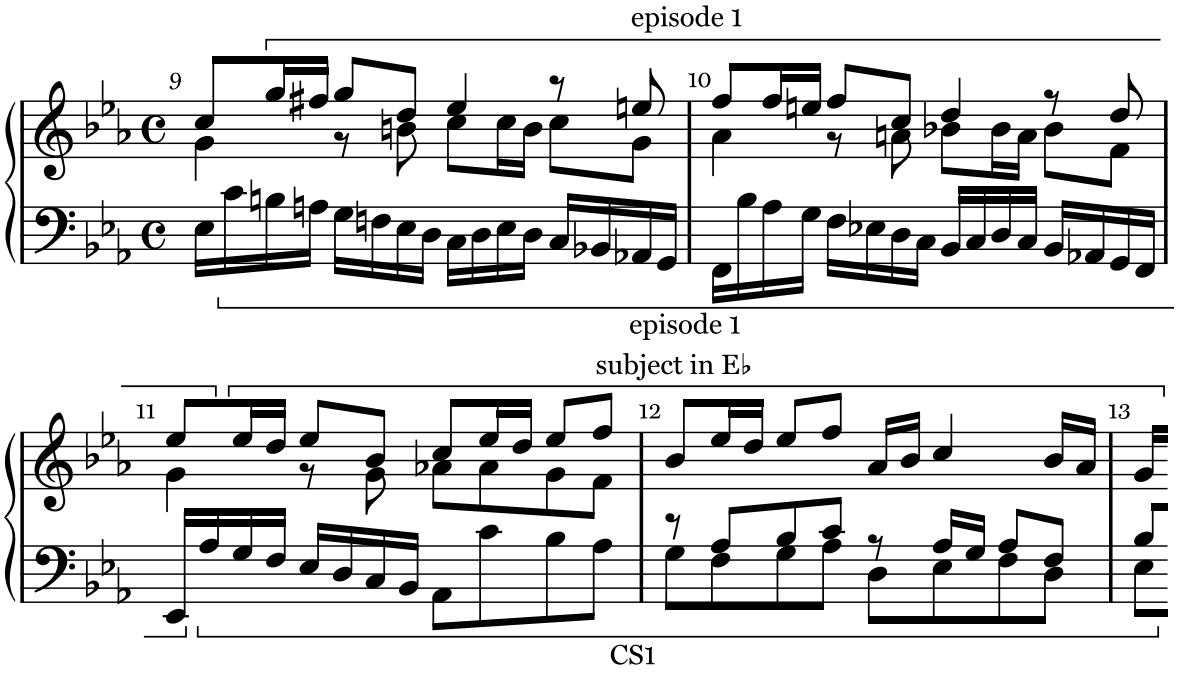
Episodes and Later Expositions

Following the initial exposition in the main key, a passage called an **episode** leads to the second key area, where the subject is again presented. An episode may include one or more sequence patterns that are usually based on melodic or rhythmic motives from the subject or countersubject. Its harmonic goal is typically the dominant (in major keys) or the relative major (minor keys). As the episode prepares to establish the new key area, several measures of free counterpoint may be added to lead to the cadence. Once a new key has been reached, the subject appears, alone or with its answer, followed by another episode leading to a third key (also closely related), or back to tonic if only two keys, and additional subject entries.

KEY CONCEPT After the initial exposition, many fugues alternate episodes with additional entries of the subject in various keys. Later entries may be called exposition 2, exposition 3, and so forth; some analysts reserve the term "exposition" for the initial presentations of the subject and call these "middle entries."

Example 24.13 gives the first episode of the C Minor Fugue: the sequence begins in measure 9, beat 1, with the bass clef's C4 –a measure-length pattern that moves down by step in measure 10, arriving on an E♭ major chord on the downbeat of 11 to prepare for the subject and countersubjects in that key. Measures 11–13 then constitute a middle entry in E♭, or exposition 2.

EXAMPLE 24.13: Bach, Fugue in C Minor, episode, mm. 9–13



Subjects, countersubjects, expositions, episodes, key changes, and cadences may also be represented in a chart, as in Figure 24.1.

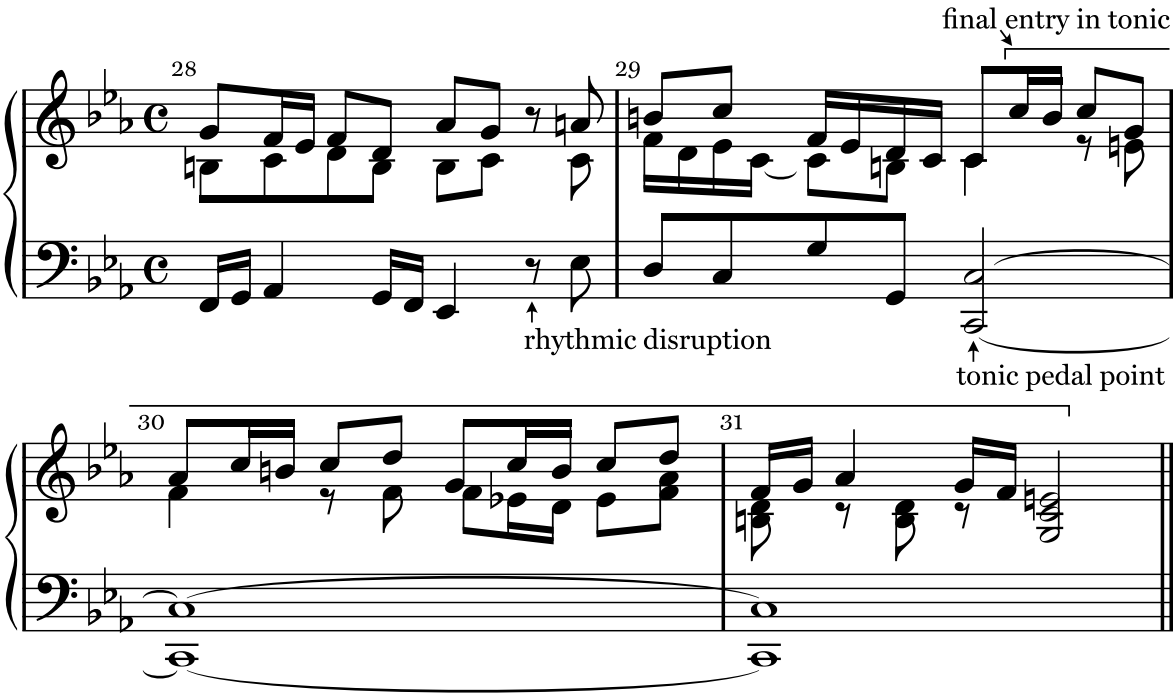
FIGURE 24.1: Bach, Fugue in C Minor, mm. 1–16

MM.	**1–2**	**3–4**	**5–6**	**7–8**	**9–10**	**11–12**	**13–14**	**15–16**
FUNCTION	exposition		(bridge)		episode 1 (modulates to E♭ major)	exposition 2 in E♭ major (III)	episode 2 (modulates to G minor)	exposition 3 in G minor (v)
SOPRANO		tonal answer		CS1	sequence on CS1 and subject	subject	based on CS1 and CS2	CS1
ALTO	subject	CS1		CS2		CS2		subject
BASS				subject		CS1		CS2

Normally the subject and countersubject appear a final time in the tonic key before the end of the fugue, in what are sometimes called the “final entries.” As the piece winds down toward the final cadence, the momentum is sometimes slowed by a pedal point, deceptive cadence, or other feature that helps

signal the end. Example 24.14 illustrates two of these features: first, a brief eighth-note rest interrupts the entire texture in measure 28–the only such rest in the fugue–and second, a tonic pedal point in 29–31 undergirds the final presentation of the subject in the tonic key.

EXAMPLE 24.14: Bach, Fugue in C Minor, mm. 28–31



SUMMARY

Inventions and fugues share many design features. Both begin with a subject that is repeated in another voice in transposition, accompanied by a countersubject or free counterpoint. Both are structured with an exposition, modulating episodes, and middle entries in closely related keys; they end with final entries in the tonic key. There are important differences, however.

Inventions:

- Written in two or three voices (three-voice inventions are called sinfonias).
- Points of imitation are at the octave only.

Fugues:

- Written in three, four, or five voices.
- Points of imitation are at the fifth (the answer) or octave (the subject).
- Answers may be real (exact transposition) or tonal (modified to stay in the tonic key).

Special Features

Double and Triple Fugues

Longer, more elaborate fugues may be based on more than one subject; these are called double (two subjects) and triple (three subjects) fugues. Here, one subject is introduced in an exposition at the beginning and the other subject(s) introduced later, either in separate sections or in combination with the previous subject(s).

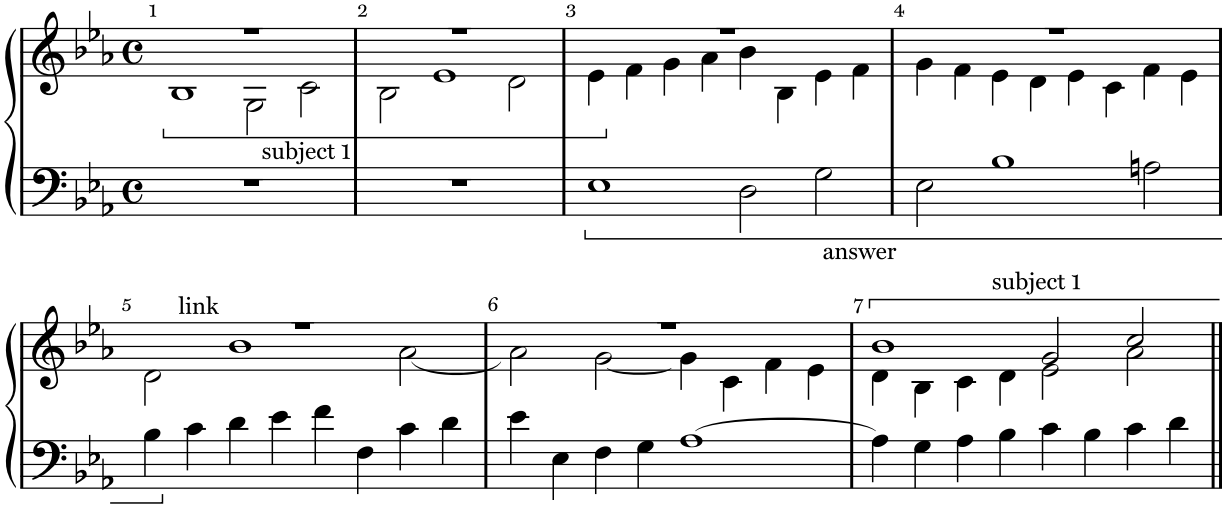
KEY CONCEPT

1. A **double fugue** features two subjects (not necessarily appearing at the same time); it should not be confused with double counterpoint, another term for invertible counterpoint in two parts.
2. A **triple fugue** features three subjects (not necessarily appearing at the same time); triple counterpoint is a relatively rare variety of invertible counterpoint in three parts (usually S, CS1, and CS2).

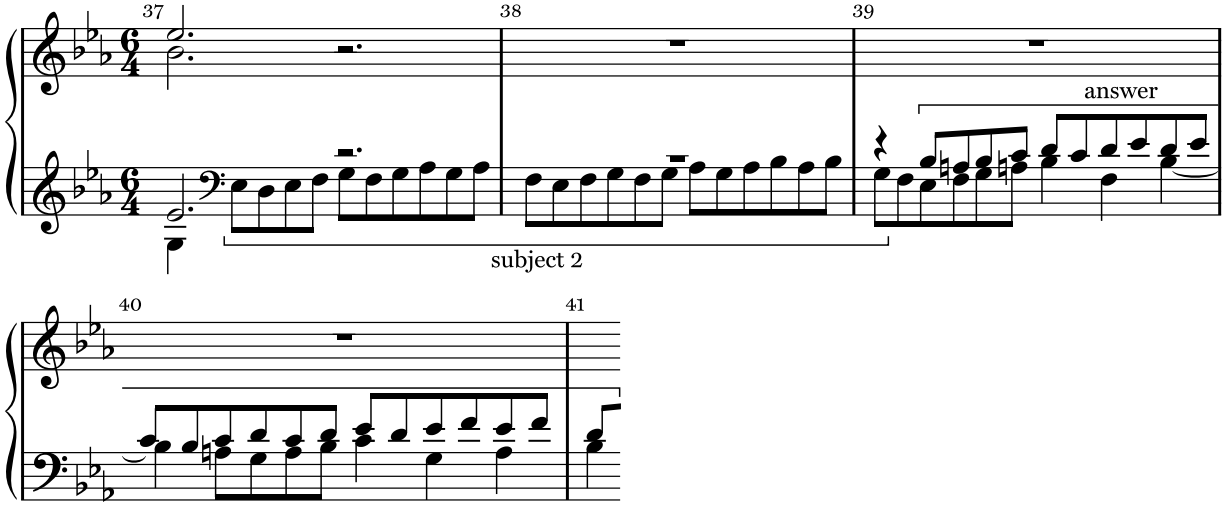
Bach's *St. Anne* Fugue is a five-voice triple fugue for organ, with three subjects introduced in three distinct sections, each with its own character (Example 24.15). The first subject so resembles the hymn tune "St. Anne" (anthology) that the fugue has come to be known by that name. The opening section is set in a stately style, with a half-note beat unit reminiscent of earlier eras. The second section features a lilting compound duple meter (with dotted-half beat unit), and the third a spritely subject that sounds almost dance-like in its $\frac{12}{8}$ meter.

EXAMPLE 24.15: Bach, *St. Anne* Fugue subjects (triple fugue)

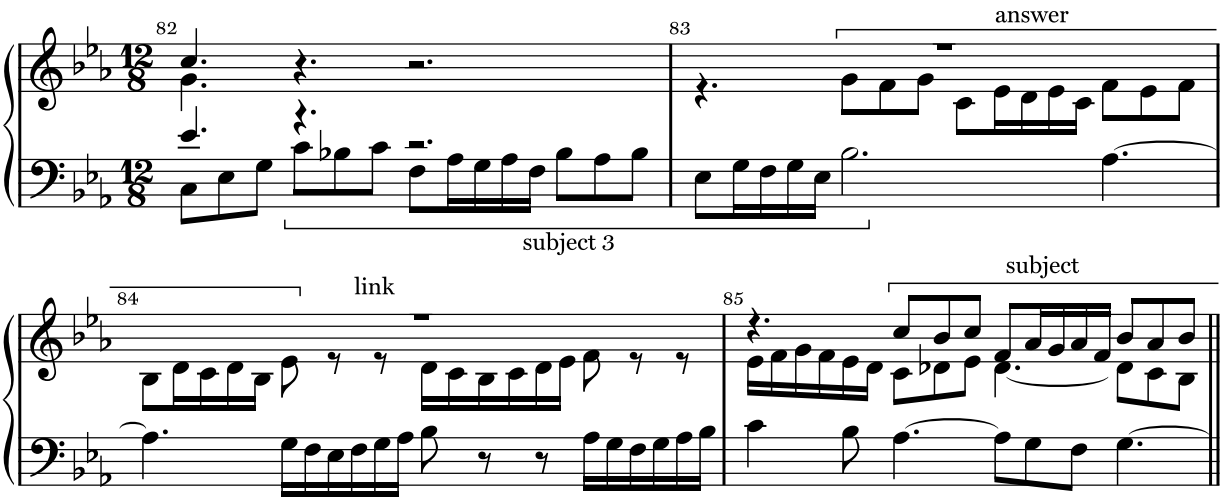
(a) Mm. 1–7: subject 1



(b) Mm. 37–41: subject 2



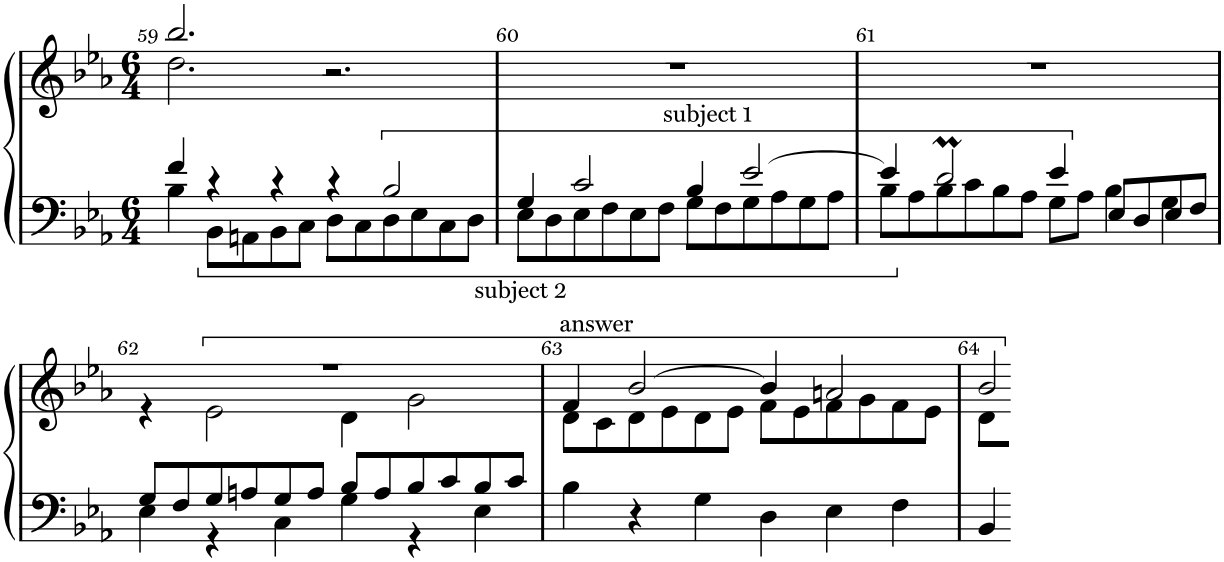
(c) Mm. 82–85: subject 3

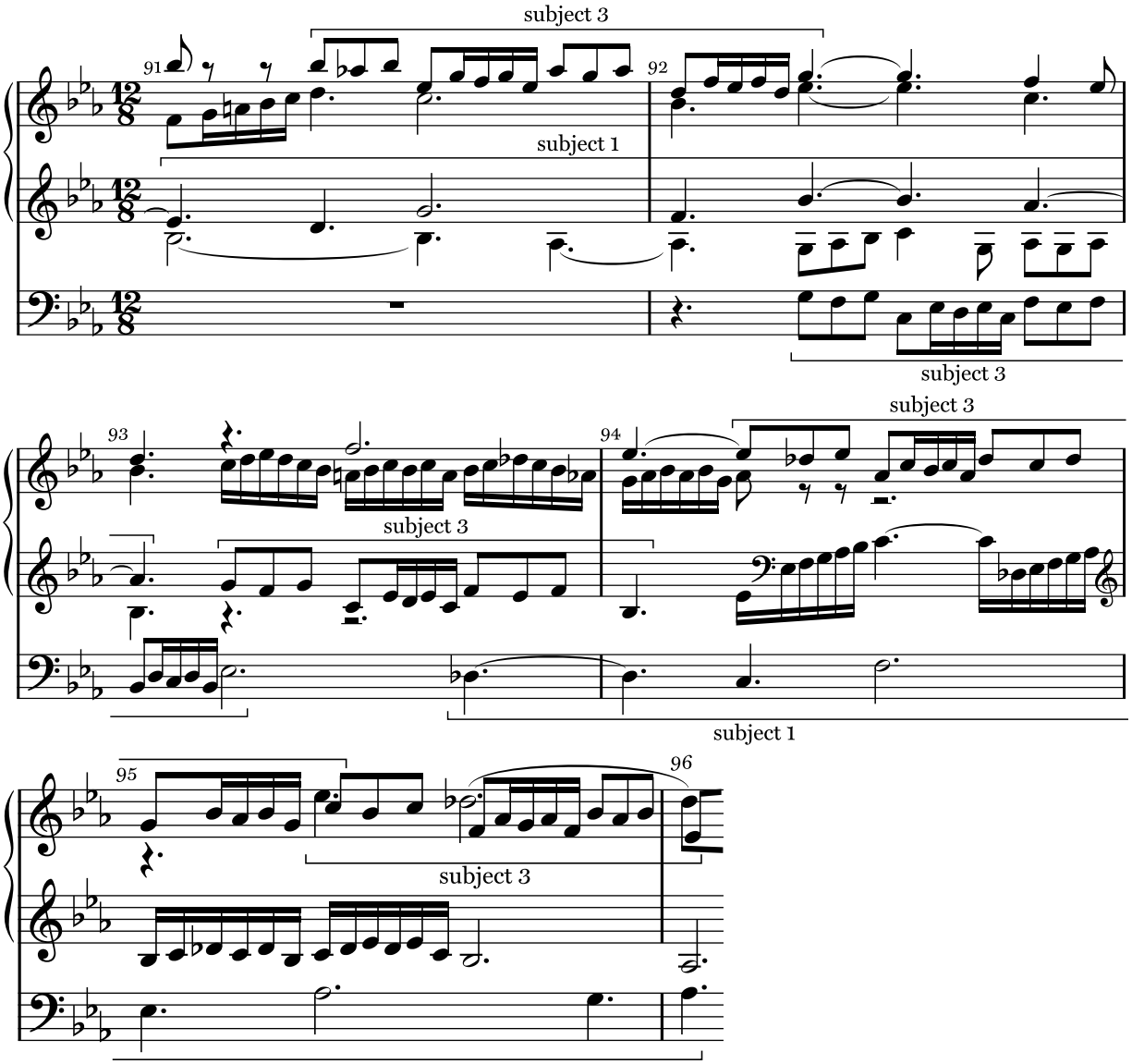


One thing that makes this fugue so remarkable is that Bach combines modified statements of subject 1 (“St. Anne”) with each of the other two subjects as each section drives to its climax. Example 24.16 shows the introduction of the “St. Anne” subject in parts 2 and 3 of the fugue.

EXAMPLE 24.16: Bach, *St. Anne* Fugue

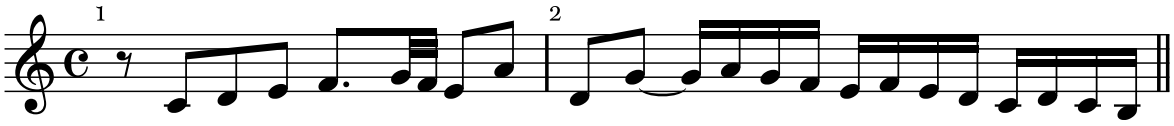
(a) Mm. 59–64: subject 2 combined with “St. Anne” subject

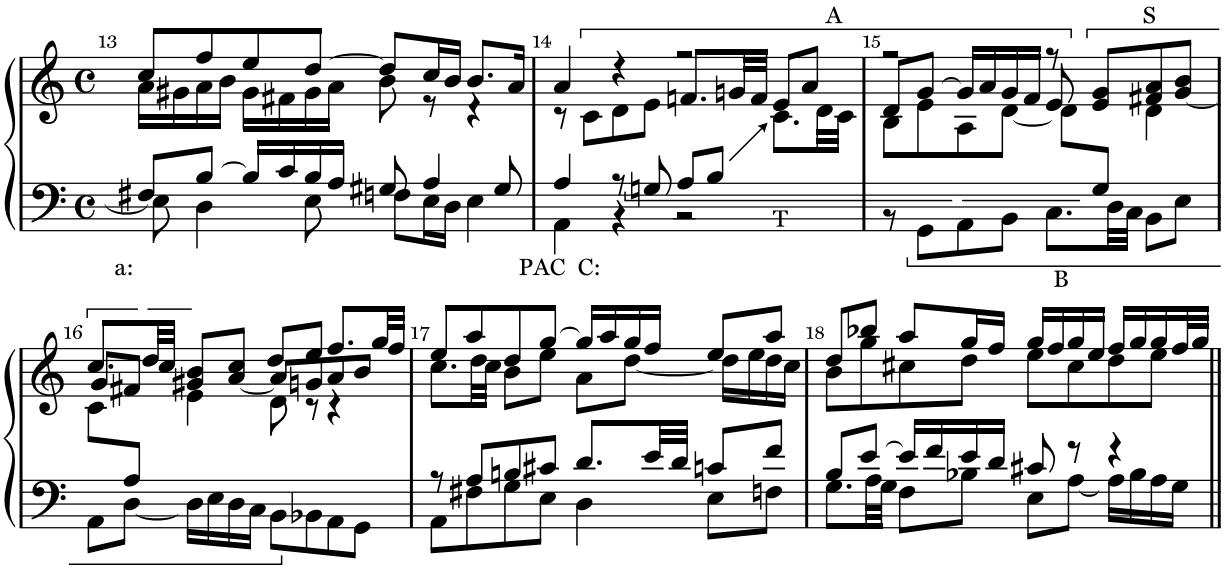


(b) Mm. 91–96: subject 3 combined with “St. Anne” subject

Stretto

Play or listen to the passage of the C Major Fugue shown in Example 24.17b for the entrances of the subject (part a). After a PAC in A minor (vi of C major) in measures 13–14, listen for four presentations of the subject in 14–15. While the entries in the alto and bass are complete, those in the soprano and tenor overlap them and break off. When subject entries overlap like this, the contrapuntal technique is referred to as **stretto**—and the subject may be complete or incomplete, as here.

EXAMPLE 24.17: Bach, Fugue in C Major

(a) Mm. 1–2 (subject)

(b) Mm. 13–18 (stretto)



Try it #2

In measures 16–18 of Example 24.17, the subject enters in stretto in each of the four voices, beginning with the soprano. Mark the subject entries on the score, and complete the chart below.

Show answers

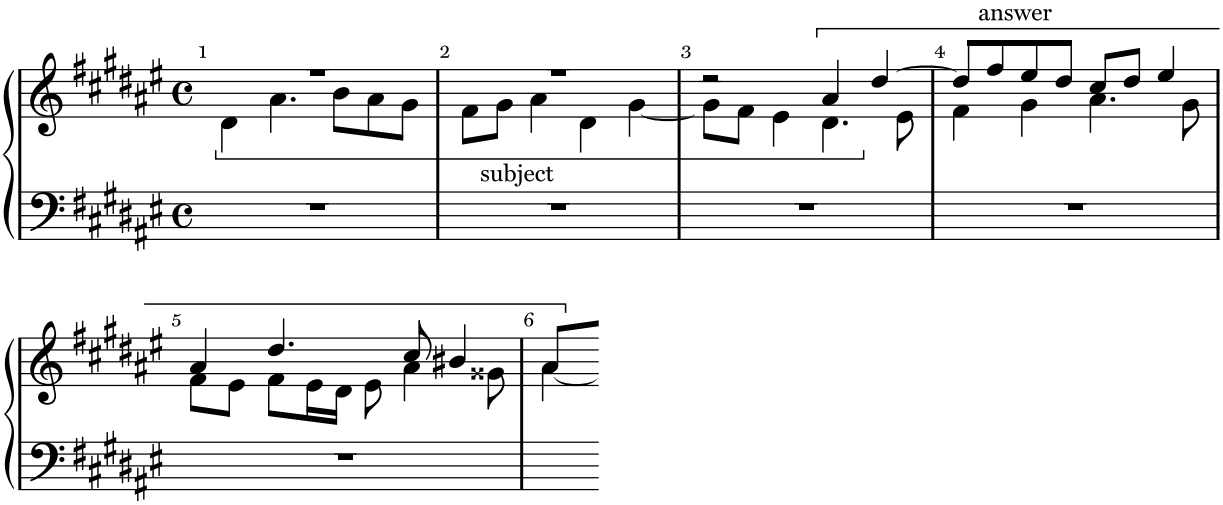
MEASURE	BEAT	VOICE PART	STARTING PITCH	COMPLETE OR INCOMPLETE ENTRY?
16	2	soprano	C5	complete

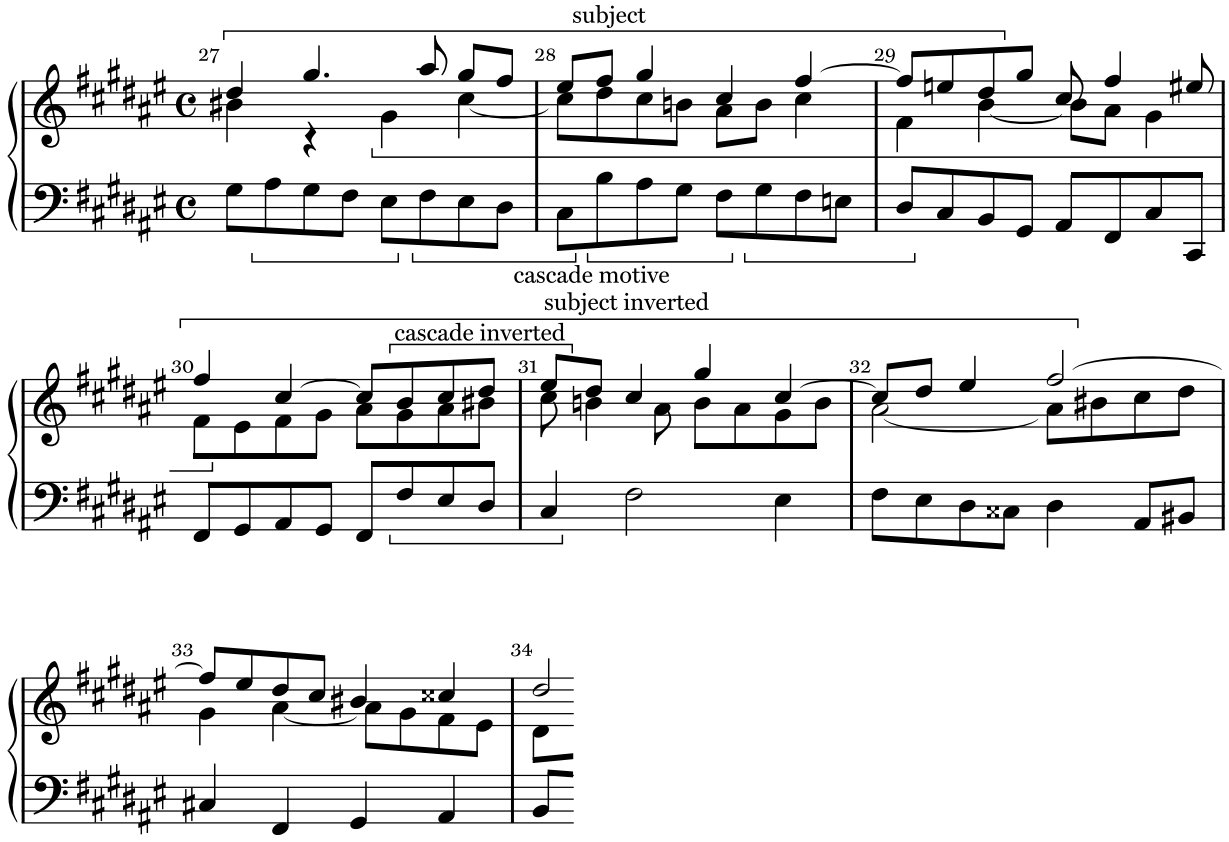
Inversion, Augmentation, Diminution, and Other Subject Alterations

For some additional contrapuntal techniques, we return to the D♯ Minor Fugue, whose subject and answer are given again in Example 24.18. In part (b), the answer appears in stretto in measure 27 in the soprano and alto, accompanied by the cascade motive. Measure 30 introduces another form of the answer in the soprano—in **inversion**, accompanied by inverted and noninverted cascade motives.

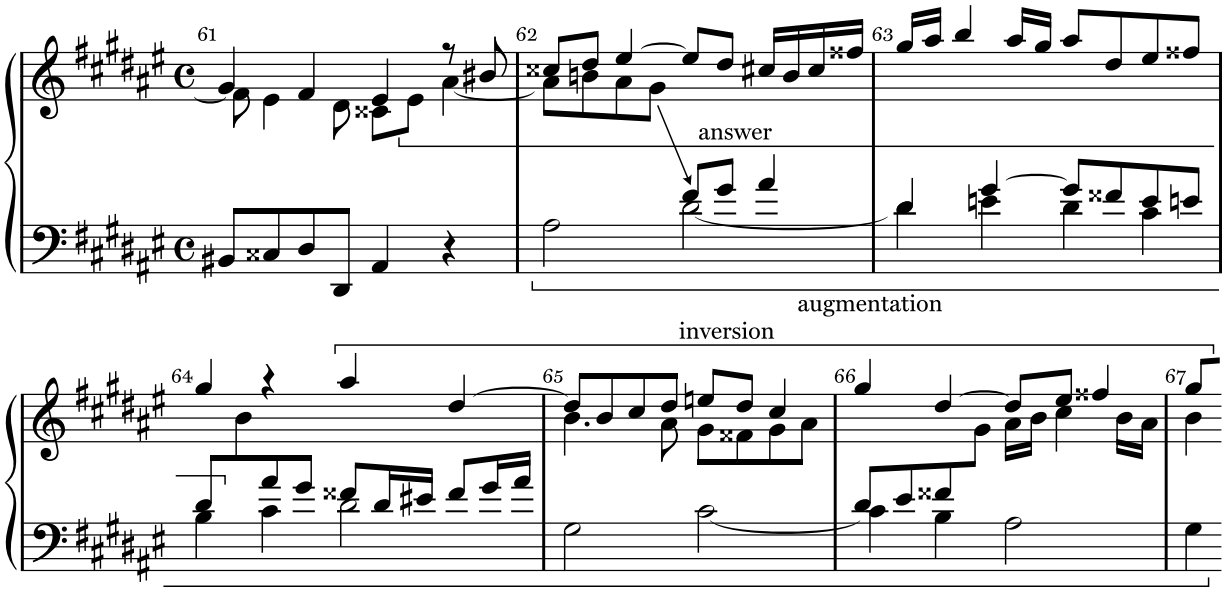
EXAMPLE 24.18: Bach, Fugue in D♯ Minor

(a) Mm. 1–6



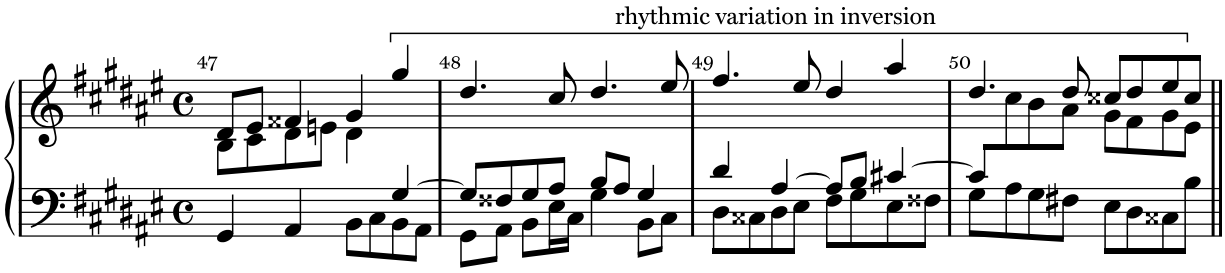
(b) Mm. 27–34

As the fugue continues, Bach also adds **augmentation**—where the duration of each note of the subject is doubled—as shown in Example 24.19. Here, an augmentation of the answer in the bass (beginning in m. 62) is combined in stretto with an ongoing statement of the answer in the alto (which began in m. 61 and moves from treble to bass clef). After the alto answer concludes, the ongoing bass augmentation is set in stretto with an inverted answer (beginning in m. 64) in the soprano. One of the few techniques Bach does *not* employ in this figure is **diminution**, where the subject's durations are halved.

EXAMPLE 24.19: Bach, Fugue in D♯ Minor, mm. 61–67 (subject in augmentation)



Example 24.20 illustrates one last subject alteration in this fugue: at the end of measure 47, the soprano enters with a rhythmic variation of the answer in inversion. This type of variation might at first seem too far removed from the original subject to constitute a subject entry, but because it is prominently placed in the soprano part and returns in measure 77 to accompany the augmented subject, it should be recognized as a subject variant.

EXAMPLE 24.20: Bach, Fugue in D♯ Minor, mm. 47–50



Try it #3

In Example 24.20 another answer sounds at the same time as the soprano's rhythmically altered answer. This answer enters in m.

Show answers

_____ beat _____, in the (circle one):

soprano alto tenor bass

The answer is (circle any that apply):

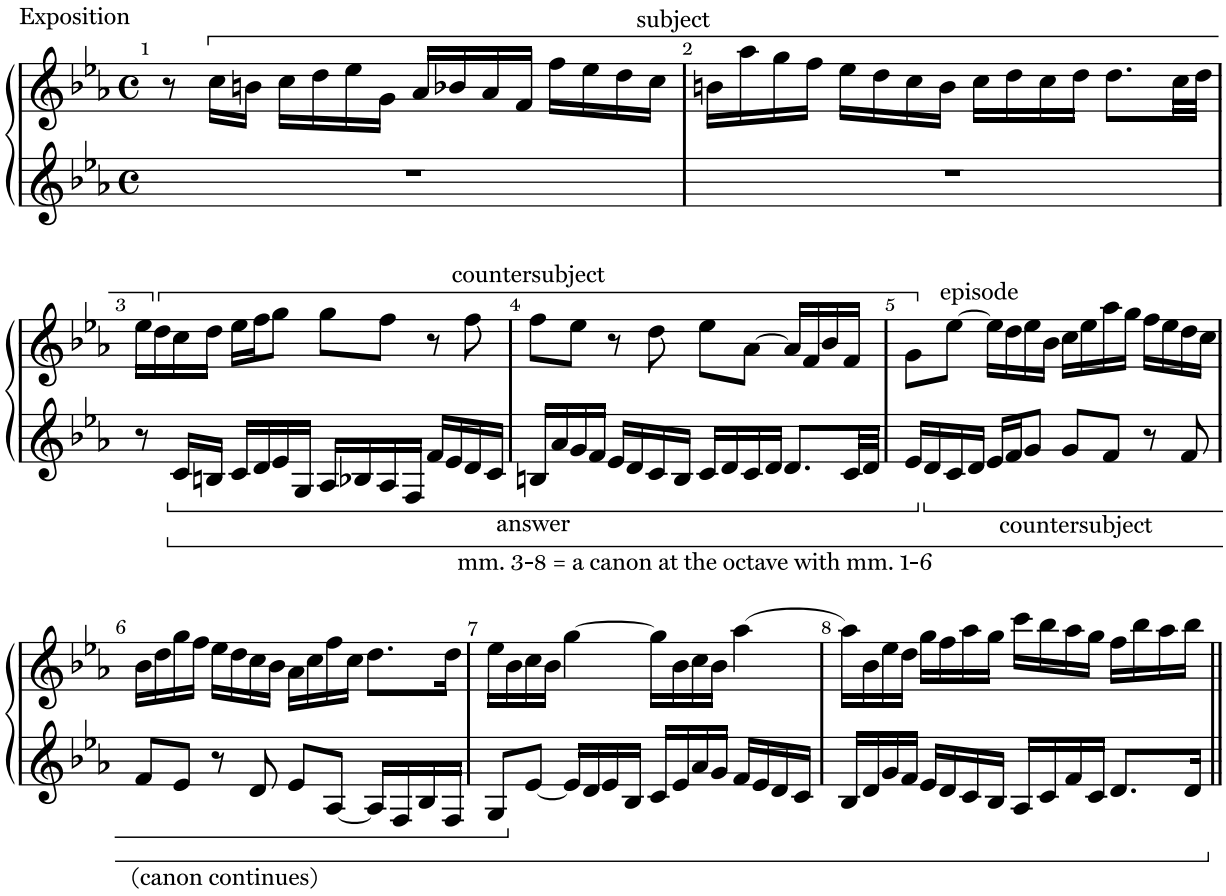
inverted augmented diminished complete incomplete

When studying fugues and other types of Baroque counterpoint, look for the subject or answer to be transformed by transposition, inversion, augmentation, diminution, or rhythmic variation. The subject or answer often becomes more complex or hidden as a fugue progresses, making these entries a challenge to hear but also a musical joy to discover.

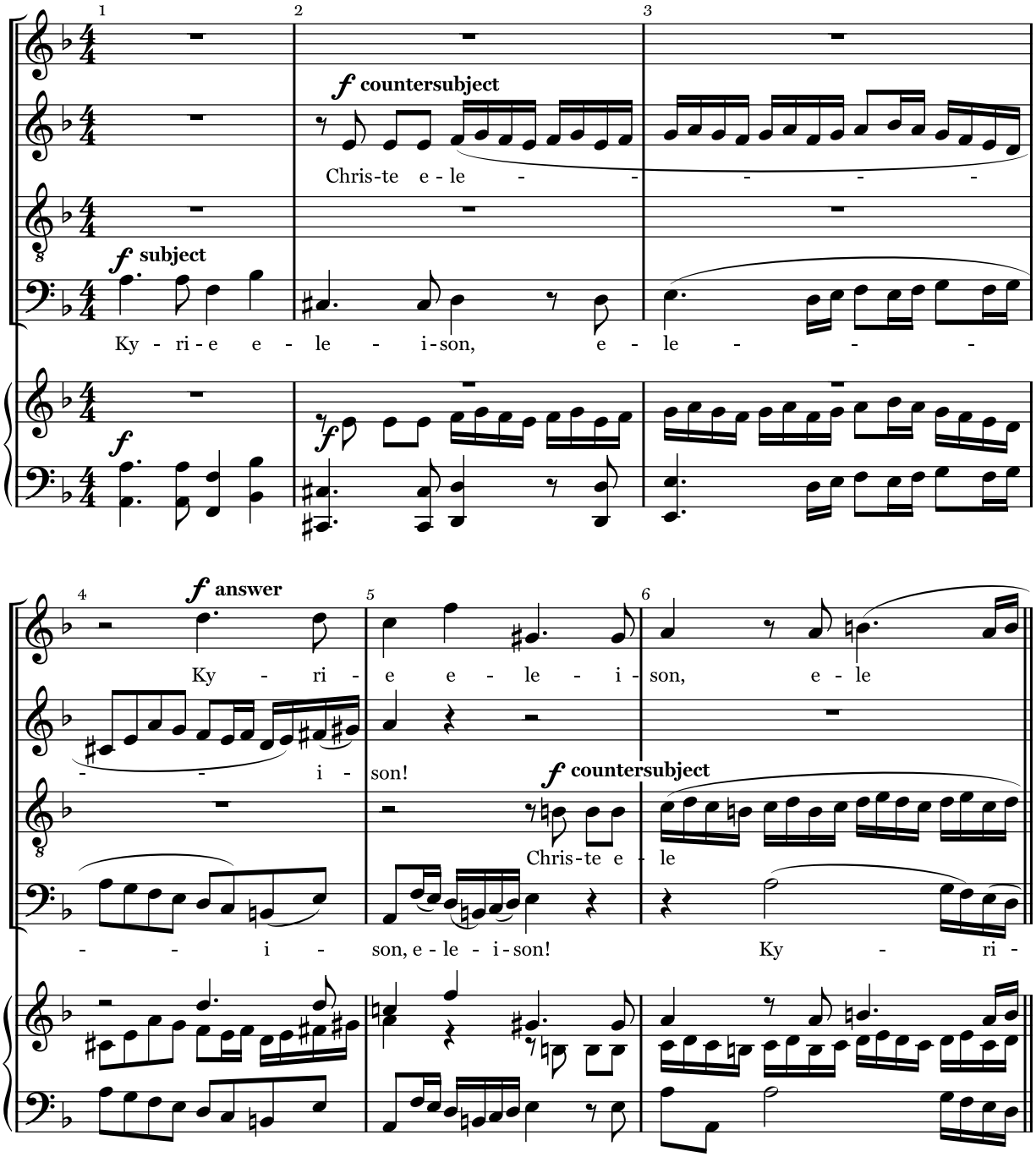
Canon

Another contrapuntal technique common in the Baroque era is illustrated in Example 24.21, from the beginning of Bach's C Minor Invention. The long subject (mm. 1–2) is presented unaccompanied in the upper part, then answered at the octave below (mm. 3–4) while the upper part continues with a countersubject. The lower part continues with the countersubject as well, after the answer is completed (mm. 5–6), and in fact completely replicates in measures 3–8 the upper part's measures 1–6, transposed down an octave.

This passage and other large portions of the invention are set in **canon**: a contrapuntal procedure where the second part can be derived from the first by following a set of instructions (in this case, "transpose down an octave and delay by two measures"). This canon not only spans the exposition but also serves as the episode, modulating to prepare the second entrance of the subject.

EXAMPLE 24.21: Bach, Invention in C Minor, mm. 1–8

Vocal Fugues

Although inventions and fugues are commonly associated with keyboard instruments such as harpsichord and organ, composers from the Baroque era onward have occasionally adapted their contrapuntal principles to vocal and other instrumental genres as well. In Example 24.22, from Mozart's *Requiem*, the "Kyrie eleison" and "Christe eleison" texts are set as an invertible subject-countersubject pair, doubled by the orchestra. The subject and countersubject are distinctly different: an angular ♩.♪♩ subject ("Kyrie") contrasts with a countersubject that begins with repeated eighths and continues with a long series of sixteenth notes moving primarily in stepwise motion ("Christe").

EXAMPLE 24.22: Mozart, Kyrie, from *Requiem*, mm. 1–6

1
2
3
f countersubject
Chris-te e - le - - - - -
f subject
Ky - ri - e e - le - i - son, e - le - - -
f
f
4
f answer
5
6
Ky - ri - e e - le - i - son, e - le
- - i - son!
f countersubject
Chris-te e - le
- - - i - son, e - le - i - son!
Ky - ri -

Translation: Lord, have mercy on us. Christ, have mercy on us.

SUMMARY

To analyze an invention or fugue:

1. Examine the subject: What are its key and mode, what harmonies does it imply? What motives does it introduce? Is the answer real or tonal?
2. Examine the countersubject: Does it reappear? Is it in invertible counterpoint with the subject? How does it interact rhythmically, melodically, and contrapuntally with the subject?
3. Label the entries of the subject, answer, and countersubject in the initial exposition.
4. Locate the returns of the subject (or answer) and countersubject throughout the piece. Wherever the subject is present, label and number these expositions.
5. Examine the episodes: Do they include sequences, and if so, what type? Which motives from the subject or countersubject appear? If an episode modulates, how does it accomplish the modulation?
6. What key areas are presented? Where is each established, and how? How do these keys relate to the main key of the piece?
7. Is the subject or answer ever transformed (by inversion, augmentation, diminution, or rhythmic variation)? Are there strettos?
8. How does the composer bring the invention or fugue to a close?

Did You Know?

The *St. Anne* Fugue is the concluding work of Bach's monumental *Clavierübung III*, sometimes called his *Organ Mass*. Bach wrote four different sets of works that he called *Clavierübung*–literally, "keyboard practice." Other keyboard works bearing this title include the French and Italian Suites and the *Goldberg Variations*. *Clavierübung III*, for organ, positions the E♭ Major Prelude and Fugue like bookends, on either end of a large collection of chorale preludes. These preludes are based on chorales whose texts are derived from the Lutheran mass and biblical texts, such as the Ten Commandments and Lord's Prayer. The *St. Anne* Fugue is thought to be infused with Christian symbolism of the Holy Trinity ("three in one"). For one thing, it is written in E♭ major, three flats. For another, three subjects are set in three large sections, where duple beat divisions give way to triple as the fugue progresses: the half-note beat unit of the first section divides into quarter-note threes for part two (in $\frac{6}{4}$), and then further into eighth-note threes for part three (in $\frac{12}{8}$).

TERMS YOU SHOULD KNOW

answer
- real
- tonal

augmentation
bridge
canon
compound melody
diminution
double counterpoint
double fugue
episode
exposition
Fortspinnung
free counterpoint
fugue
invention
inversion
invertible counterpoint
link
middle entries
pedal point
sinfonia
step progression
stretto
subject
triple counterpoint
triple fugue

QUESTIONS FOR REVIEW

1. How do *Fortspinnung* melodies differ from antecedent-consequent phrases?
2. What are some differences between expositions in inventions and those in fugues?
3. In what order do fugue voices typically enter?
4. What scale-degree patterns in a fugue subject require a tonal answer?
5. In what portion of a fugue is invertible counterpoint commonly written?
6. What is the tonal function of an episode, and how is this accomplished?
7. How might a fugue slow its motion into the final cadence?
8. What is the difference between double counterpoint and a double fugue? between triple counterpoint and a triple fugue?
9. What distinguishes subject entries in a stretto?
10. What techniques may transform the subject in the middle of a fugue to add interest?
11. In music for your own instrument, find examples of (a) a *Fortspinnung* melody and (b) a compound melody.

Know It? Show It!

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Apply what you've learned to complete the workbook assignments.

25 Variation

Outline

Continuous variations
- Formal organization

Sectional variations
- Themes and formal organization
- Variation procedures

Musical topics

Performing variations

Overview

This chapter considers two types of variation forms—Baroque continuous variations and Classical sectional variations—and musical "topics."

Repertoire

Johann Sebastian Bach, Violin Partita No. 2 in D Minor, Chaconne

Ludwig van Beethoven

Piano Sonata in C Minor, Op. 13 (*Pathétique*), mvt. 3

Variations on "God Save the King"

Gustav Holst, Second Suite in F Major for Military Band, mvt. 4 ("Fantasia on the 'Dargason'")

Wolfgang Amadeus Mozart, V*ariations on* "A*h, vous dirai-je Maman*"

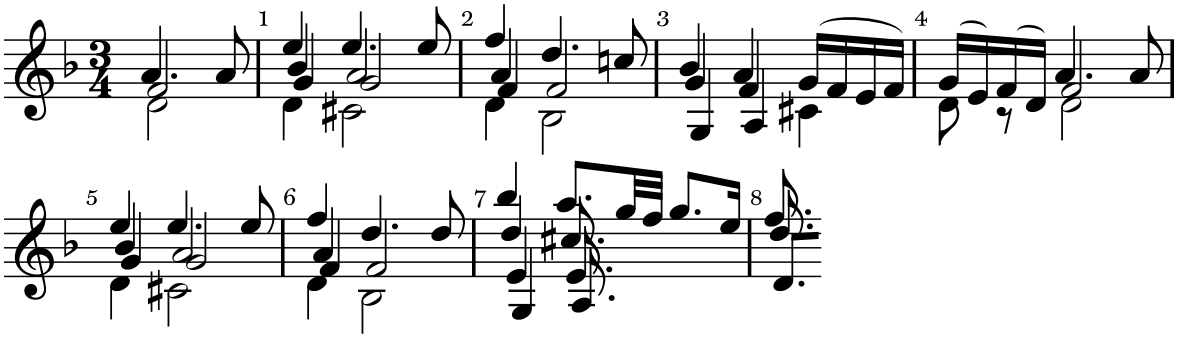
Henry Purcell, "Music for a While"

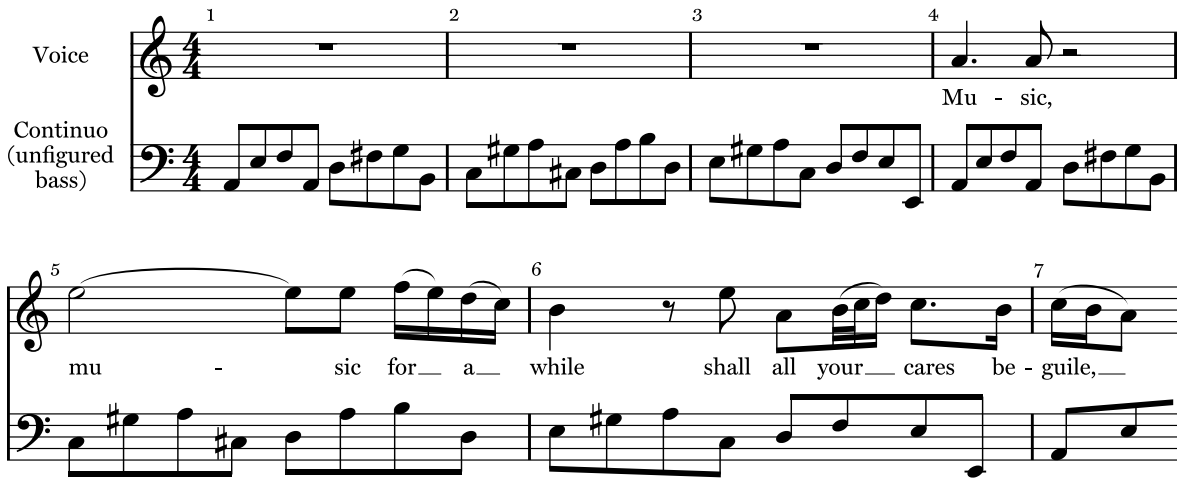
Continuous Variations

We encountered individual variations in previous chapters, like those from Mozart's *Variations on "Ah, vous dirai-je Maman,"* that are based on a recognizable theme. Such Classical-style sets are known as **sectional variations** because the theme, as well as each variation, is harmonically closed. Many variation movements in Baroque style follow a different organizational plan: rather than divisions articulated by authentic cadences and double bar lines, these **continuous variations** feature a continuous flow of musical ideas and *Fortspinnung* phrase structure. The repeated element—the basis for the variations—is usually a bass line or a chord progression, rather than a melody with accompaniment.

Listen to Bach's Chaconne and Purcell's "Music for a While," both continuous variations, while following the scores in your anthology. Examples 25.1 and 25.2 reproduce the opening two statements of the theme for each work.

EXAMPLE 25.1: Bach, Chaconne in D Minor, mm. 1–8



EXAMPLE 25.2: Purcell, "Music for a While," mm. 1–7

Continuous variation themes are usually shorter than those of sectional variations, spanning perhaps two to eight measures, and though there may be a cadential harmonic progression at the end of those measures, there is no pause: the repetitions of the theme tend to be elided at the cadence to maintain the continuous structure. The rhythmic flow throughout the variation set is likewise continuous. Where phrases are not connected by elision, a lead-in (or connecting idea) often links one variation with the next.

Some of the names associated with Baroque continuous variations are "passacaglia," "chaconne," and "ground bass." These terms are not always applied consistently because the musical characteristics associated with each term (especially chaconne and passacaglia) varied depending on the time and place of composition.

KEY CONCEPT There are two general types of continuous variation.

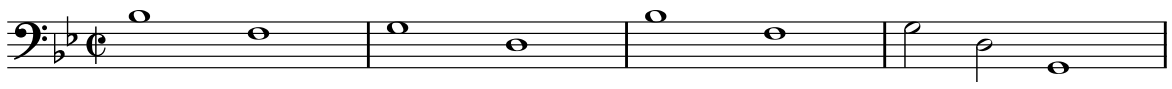
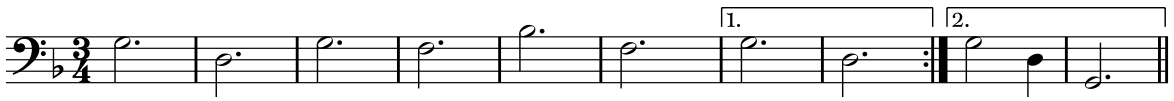
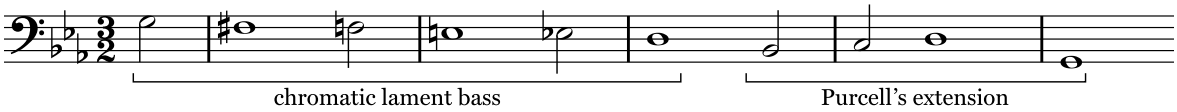
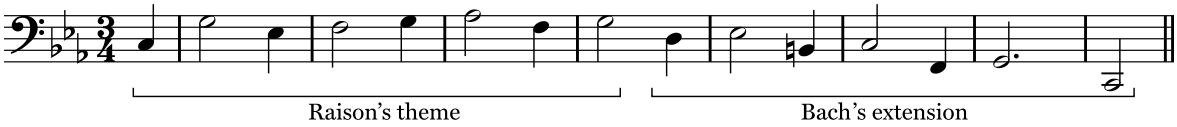
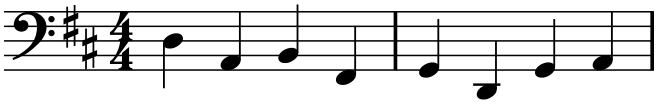
- In a **ground bass** or **passacaglia**, the *bass line* is repeated while the upper voices are varied. The variations may reharmonize the bass line and may include phrase lengths that differ from, and overlap with, the statements of the ground bass.

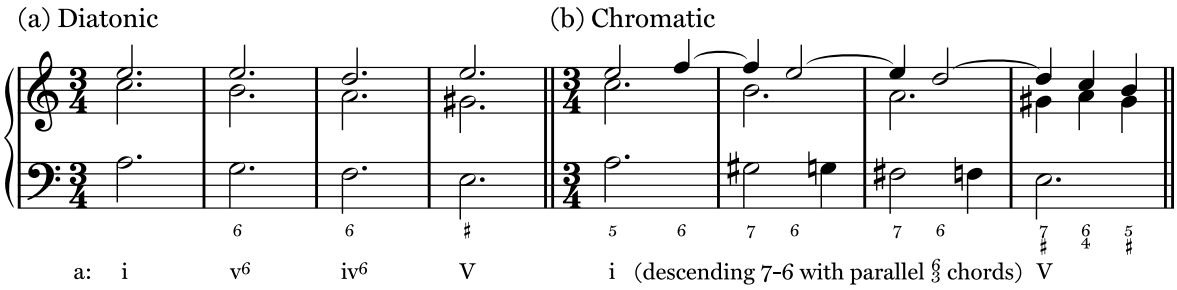
- In a **chaconne**, the *harmonic progression* is repeated and varied. While the bass line may remain unchanged for several successive variations, it is usually altered as the piece progresses—rhythmically, harmonically, or through inversion.

The Bach Chaconne (Example 25.1), then, is based on a chord progression, with the bass line maintained in only some of the variations; in the Purcell song (Example 25.2), the bass line, or ground bass, serves as the foundation throughout. It is helpful to differentiate between these two types of compositional methods–ground bass versus repeated harmonic progression–even if historically the application of labels has varied.

Example 25.3 shows several traditional bass patterns found in Baroque continuous variation sets and the names associated with them; the first two predate the Baroque era. Both Purcell and Bach created famous variation bass lines by taking a traditional ground bass and adding an extension. Purcell's (part c) extends the "lament" tetrachord (so called because of its association in early opera with sadness and death; see Example 25.4), while Bach's (part d) extends a bass used by French Baroque composer André Raison. Some of these bass lines, such as the lament bass (which appears in both diatonic and chromatic forms) and Pachelbel's bass (Chapter 19), continue to be employed in both concert and popular music today.

EXAMPLE 25.3: Traditional bass lines for continuous variations

(a) Romanesca

(b) La Folia

(c) Lament bass from Purcell's "When I am laid in earth"

(d) Bass from Bach's Passacaglia in C Minor

(e) Bass from Pachelbel's *Canon in D*

EXAMPLE 25.4: The lament bass in diatonic and chromatic versions, with a typical harmonization



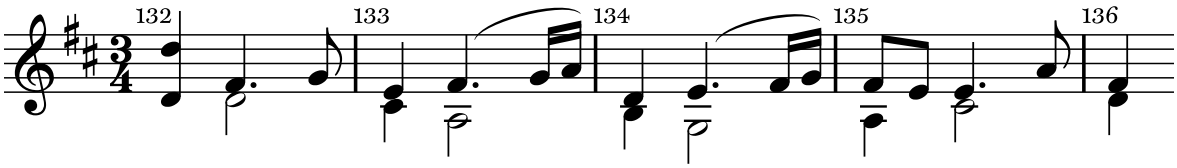
Formal Organization

Chaconnes and passacaglias may include as many as sixty or more short variations. They are often grouped into pairs or sets that are linked by a shared figure or other musical characteristic; for example, the first and second variations might form a pair, as well as the third and fourth, and so on. Paired variations help keep the movement from sounding choppy or heavily segmented.

The first forty measures of the Bach Chaconne (anthology) illustrate a large-scale rhythmic process that often structures variation movements: the work begins with predominantly quarter notes, then moves gradually through shorter note values to sixteenth notes in measures 27 and following. This is known as **rhythmic acceleration** or **rhythmic *crescendo***. Another rhythmic acceleration then begins in measure 56 with mostly eighth-note motion, gradually moving to sixteenth notes and culminating in thirty-second notes in measures 65 and following.

Many continuous variations also exhibit some type of large-scale **A B A′** form. In many cases, the contrasting section is achieved by motion to the parallel key. Bach's D Minor Chaconne is no exception: measures 132–207 are in D major (Example 25.5), sharing rhythmic motives and a similar (though not identical) harmonic progression with the opening.

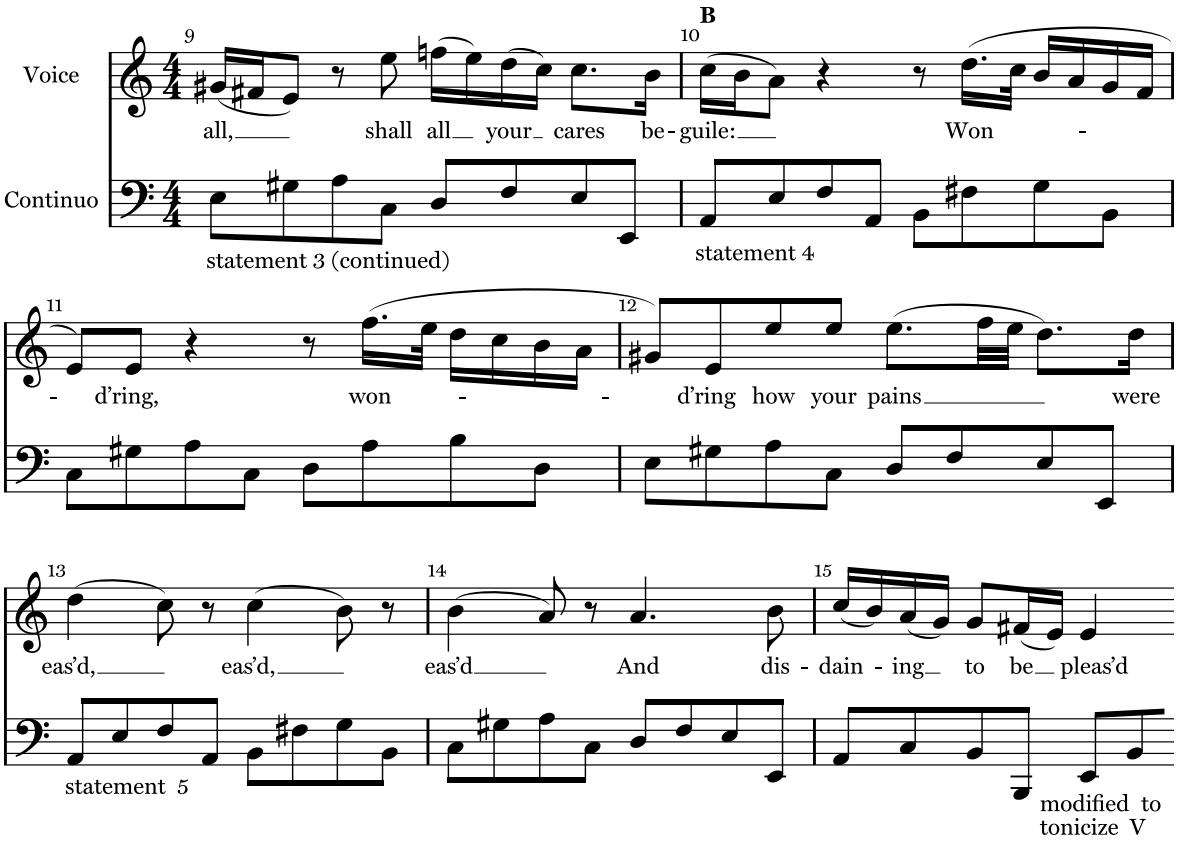
EXAMPLE 25.5: Bach, Chaconne in D Minor, mm. 132–136



In passacaglias, another way to create contrast is to move the repeated bass line temporarily into an upper voice. This practice can be particularly effective in an organ passacaglia, since it means moving the theme out of the distinctive pedal register and timbre.

Purcell's "Music for a While" illustrates yet another way to help keep a continuous variation set from sounding too repetitive. Two presentations of the ground bass were given in Example 25.2. Listen to the entire song now, while following the score in your anthology, and focus on the bass line. This line is repeated three times in measures 1–12, but then is altered to modulate to new keys. It passes briefly through E minor (m. 15, with the ground bass now beginning mid-measure), G major (m. 18), and C major (m. 22). The ground bass returns to A minor briefly in measure 23, and passes once more through E minor (m. 28) before settling in the tonic key for the remainder of the piece. Throughout these tonal changes, the bass line never loses its characteristic rhythm, contour, or prominence as the organizing principle behind the piece.

Now if you focus on Purcell's vocal melody and large-scale design, you should hear an **A B A′** structure superimposed on the continuous variation. This organization is most clear when the **A** section returns in measure 29: at this point, the text and a substantial part of the melody from the song's opening return, and the ground bass returns to its downbeat metrical position. The beginning of the **B** section (Example 25.6) is more difficult to determine, but it surely includes the modulatory statements of the ground bass and introduction of new text. We can therefore begin the **B** section in measure 10, with statement 4.

EXAMPLE 25.6: Purcell, "Music for a While," mm. 9–15

This new vocal phrase ("Wond'ring"), beginning on the third beat of ground bass 4, continues right through the beginning of ground bass 5 in measure 13 ("were eas'd"). Ground bass and vocal line are then back in alignment at the cadence in E minor in measure 15. Places where the vocal melody and bass pattern do not align help create a more seamless (and more interesting) piece than complete alignment of the two would provide.

SUMMARY

In continuous variations:

- The repeated element (theme) may be a bass line, a harmonic progression, or both, and is normally

quite short: two to eight measures long.

- There are many repetitions of the theme, each elided into the next, often grouped into pairs.
- The variations overall often fall into three large sections (**A B A′**), with the middle section in a contrasting mode or key.
- Each large section usually features a rhythmic acceleration or some other type of intensification to shape the section and build toward the final close.

Sectional Variations

Variation movements in the Classical era, a time when clear phrases and sectional organization were prized, are more often constructed with a sectional design: each variation is clearly articulated from the next by a strong conclusive cadence (usually before a double bar) and sometimes by a striking change in style or texture. Since each variation could be played as a complete stand-alone section, these sets are called **sectional variations** or **theme and variations**, and may vary in length from five to twelve variations or more. This type of movement can also be found in works from the Romantic era and beyond.

Themes and Formal Organization

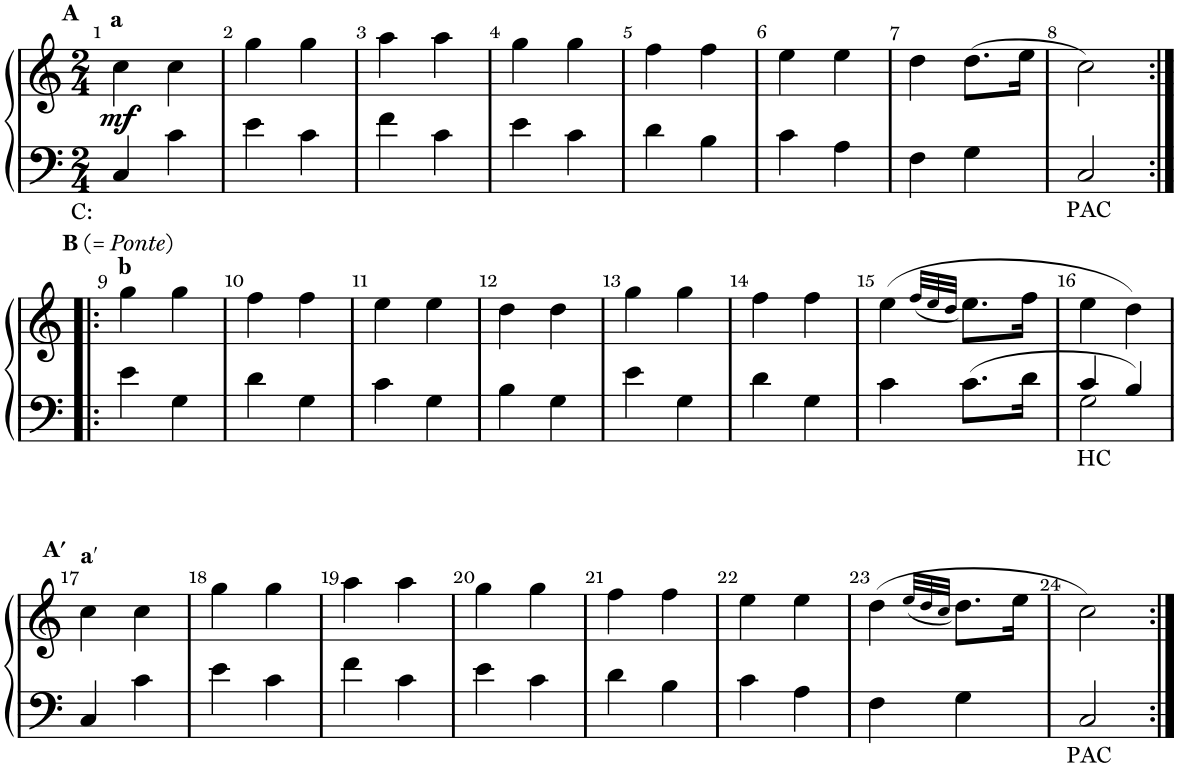
Sectional variations are based on a melody that serves as a **theme**, the main idea to unify the set. While the length may vary, Classical-era themes are usually sixteen measures or more and show a clear phrase structure.

A theme may comprise a complete formal unit, as does the rounded binary of the Mozart theme in Example 25.7, that makes a complete short piece in itself. Though the theme may be newly composed, many are based on a preexisting melody, like Mozart's—folk songs, patriotic songs, and other familiar melodies work particularly well because listeners can more easily follow the melody's transformation through the variation process.

Mozart's theme is a melody we know as "Twinkle, Twinkle, Little Star" but he knew as a French folk song, "Ah, vous dirai-je Maman." Listen to Example 25.7 to review its phrase structure and formal organization.

EXAMPLE 25.7: Mozart, *Variations on "Ah, vous dirai-je Maman,"*

theme, mm. 1–24

Sectional rounded binary

In this piece, the variations are numbered in the score, a convention typical of sectional variations; otherwise the next step would be to locate the starting point for each new variation. In Mozart's score, most variations follow the rounded binary form of the theme: **𝄆: A :𝄇: B A** (or **A′**) **:𝄇**. Take a close look at the last variation: the first section is eight measures long as before, and the first ending of the second section cadences as expected, but the second ending adds eleven measures. These added measures constitute a coda, helping to bring the entire piece to a close.

Variation Procedures

Now listen to the entire piece. As you listen, think about what has been changed in each variation compared with the theme, and also how the variations work together as a set.

KEY CONCEPT When you analyze variation movements, keep the following questions in mind.

- Does the variation differ in key, mode, meter, phrase structure, length, or character from the theme?
- Is there a melodic or rhythmic figure or a specific embellishment pattern? If so, what is it?
- Does the variation form a pair with another, or a unit with several others?
- Is chromaticism used? If so, does it embellish a melody line, or does it change the harmonic function?
- Are the harmonies more complex than in the theme or previous variation? Are they simplified?

Try it #1

In the Mozart *Variations*, the key, meter, and form are consistent in almost every variation. Flip through the score to identify one variation that is in minor, and one that has a different meter.

Show answers

Minor key: Variation number _____ key _____

Meter change: Variation number _____ meter _____

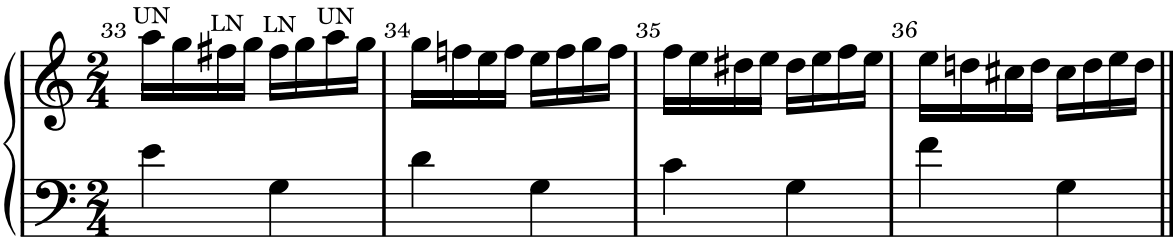
Figural Variation Most of the variations in this piece are **figural**: they feature a specific embellishment pattern or figure throughout. Figural variations are often grouped in pairs. In the Mozart set:

- Variations I and II share sixteenth notes in one hand against quarter notes in the other; this rhythmic relationship reverses hands in the two variations.
- Variations III and IV share triplets in one hand against primarily quarter notes in the other.
- Variations VIII and IX both feature imitative textures and suspensions in the upper voices.
- Rounding out the piece is a return in Variation XII of the sixteenth-note accompanimental pattern heard in Variation II, now adapted for triple meter.

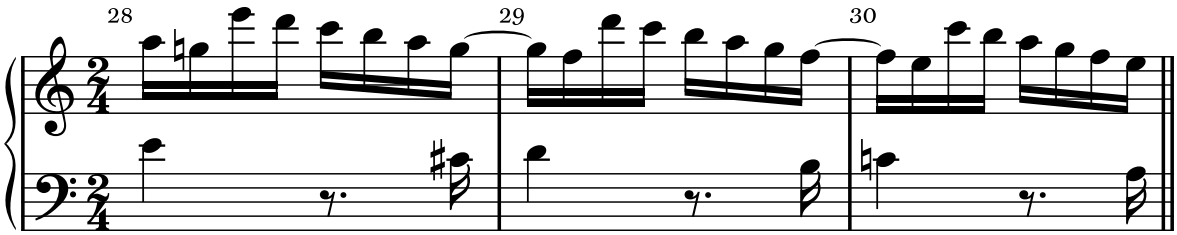
Compare Example 25.8a with measures 9–12 of the theme to see how the melody is embellished in Variation I—with upper and lower neighbors, as marked. A second figure with a leap and a scale appears in measures 28–30 (part b).

EXAMPLE 25.8: Mozart, *Variations on "Ah, vous dirai-je Maman,"* Variation I

(a) Mm. 33–36

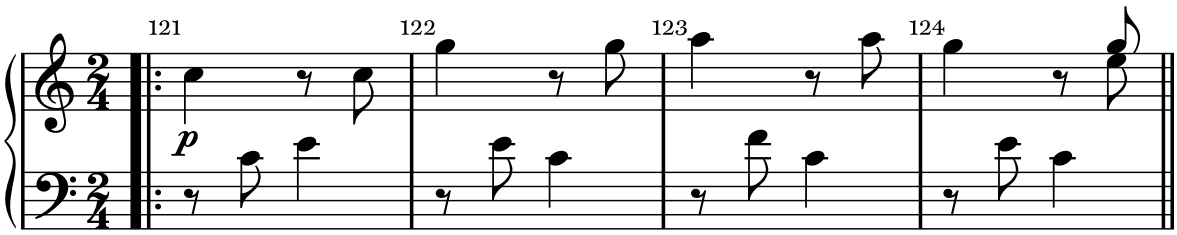


(b) Mm. 28–30

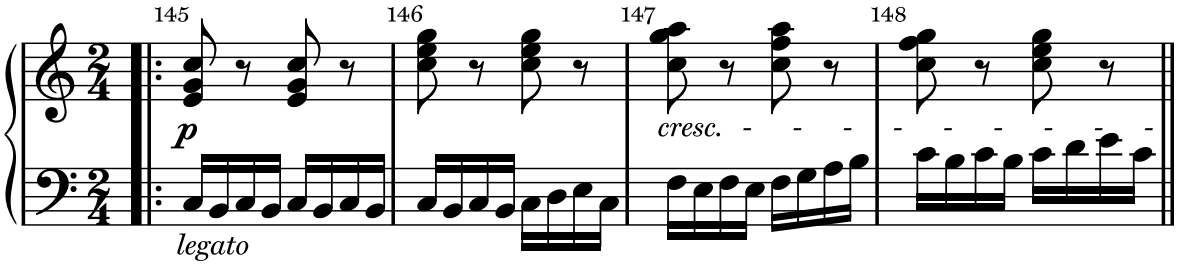


Variation V is built on a rhythmic figure—𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯—heard in both the melody and accompaniment (Example 25.9). In other variations, such as VI (Example 25.10), each hand is characterized by a different figure. Some figures embellish and disguise the melody, while others appear in the accompanimental voice, with the melody floating above.

EXAMPLE 25.9: Mozart, *Variations*, Variation V, mm. 121–124



EXAMPLE 25.10: Mozart, *Variations*, Variation VI, mm. 145–148

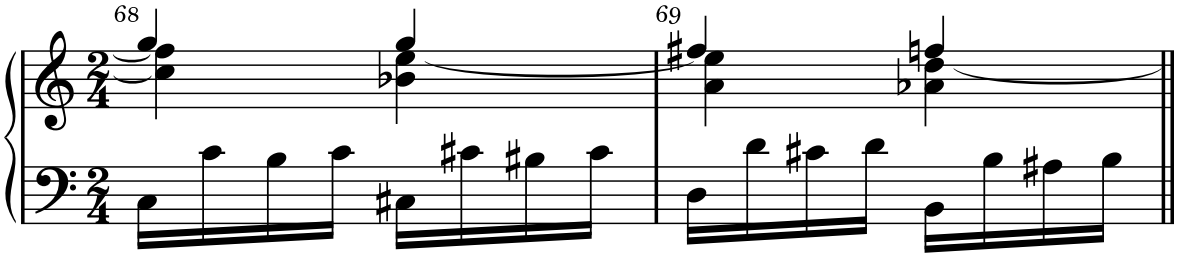


Chromatic Variation When you find chromaticism, as you will in several of Mozart's variations, check to see whether it

embellishes a melodic line or represents a change in harmony. In Example 25.8a, for instance, the F♯5, D♯5, and C♯5—all chromatic neighbors—decorate the melodic figure.

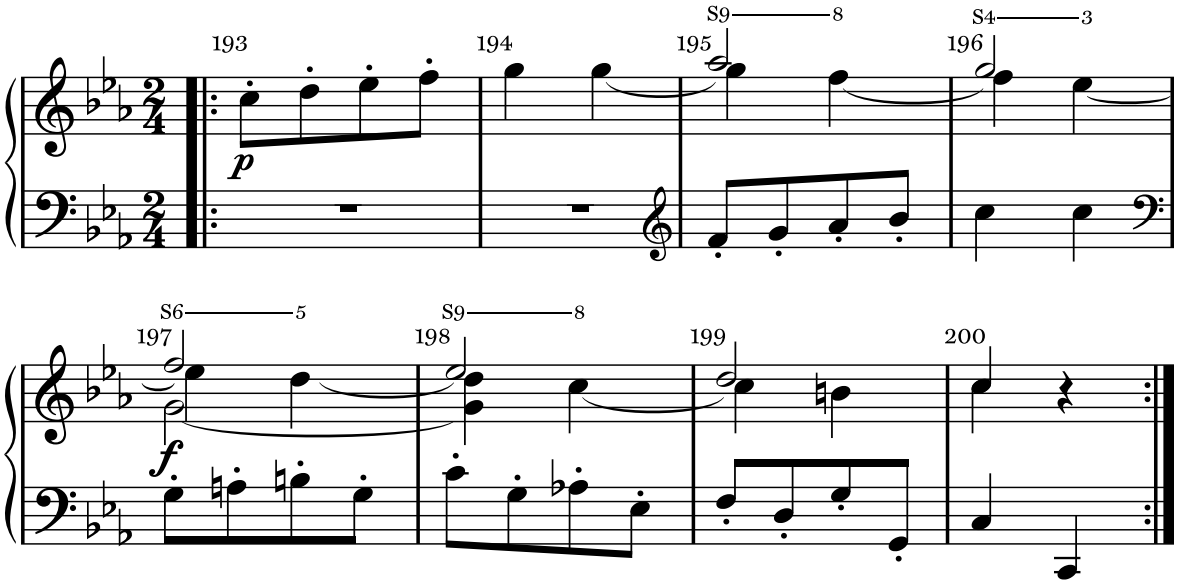
For chromaticism that changes the harmonic progression, listen to Example 25.11. In measure 68, the C♯3 and B♭4 on beat 2 transform the original C major tonic into a diminished seventh chord that resolves in the next measure. The addition of A♭4 on beat 2 of measure 69 then creates another diminished seventh chord that resolves in measure 70. In both cases, the chromatic pitches are part of secondary leading-tone chords. The C♯4 and A♯3 in measure 69, in contrast, are simply chromatic neighbors.

EXAMPLE 25.11: Mozart, *Variations*, Variation II, mm. 68– 69



In variation sets built on a major-key theme, you may also find chromaticism in passages that include modal mixture (Chapter 26) or a complete change of mode. Listen, for instance, to measures 197–198 of Variation VIII (Example 25.12). Minor-mode variations, like this one, are normally in the parallel rather than the relative minor, to retain the same key center, allowing a good opportunity for expressive chromaticism. Here, the accidentals in the bass line indicate the melodic minor scale; much of the expressive effect comes from the chain of suspensions in the right hand. Elsewhere in minor-mode variations, composers often substitute dramatic chromatic harmonies such as the Neapolitan and augmented-sixth chords—chords we will investigate in Chapter 27.

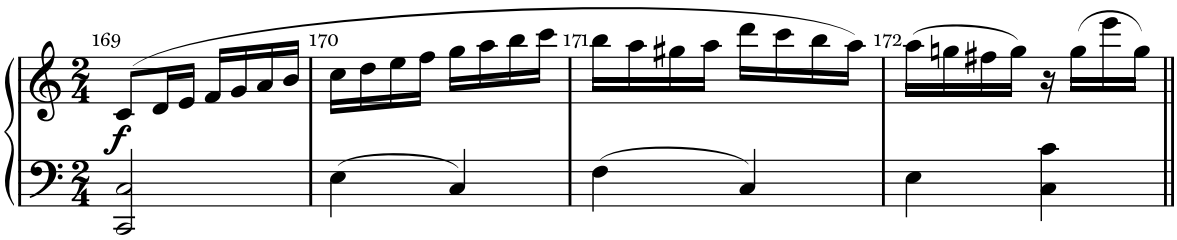
EXAMPLE 25.12: Mozart, *Variations*, Variation VIII, mm. 193–200



Textural Variation In most variation sets, one of the elements varied is texture. In a general sense, we might refer to a "thin" texture when there are only a few voices and/or simple rhythmic patterns–as in the theme for the Mozart variations–and a "thick" texture when there are many voices and/or a lot of rhythmic activity. Remember that lines may be doubled in octaves, doubled by other instruments, or sometimes doubled in thirds or sixths; but while this may create a somewhat thicker texture, doubling does not create additional independent lines.

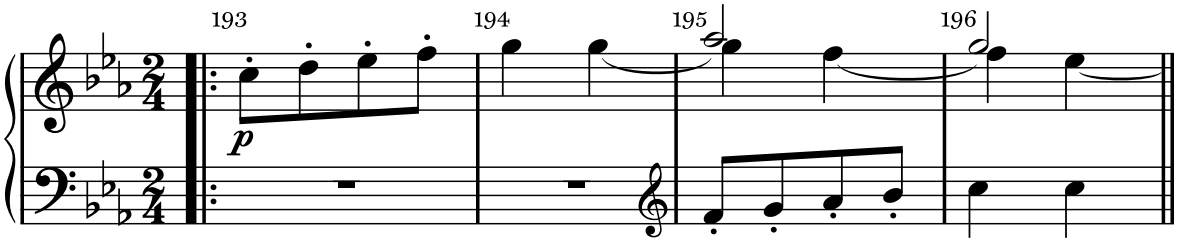
Variations tend to be organized texturally from the simplest to the most complex, but sometimes composers may include a variation with a thin texture or reduced harmonic palette in the middle of a set for contrast. Variation VII (Example 25.13), with the left-hand part thinned out to showcase the scalar patterns in the right hand, is an example; this type is sometimes called a **simplifying variation**.

EXAMPLE 25.13: Mozart, *Variations*, Variation VII, mm. 169–172



Another relatively common textural variation, a **polyphonic** or **contrapuntal variation**, may include imitative entries, as several of the Mozart variations do (Example 25.14), or a change from a harmonically based setting to one with independent voices.

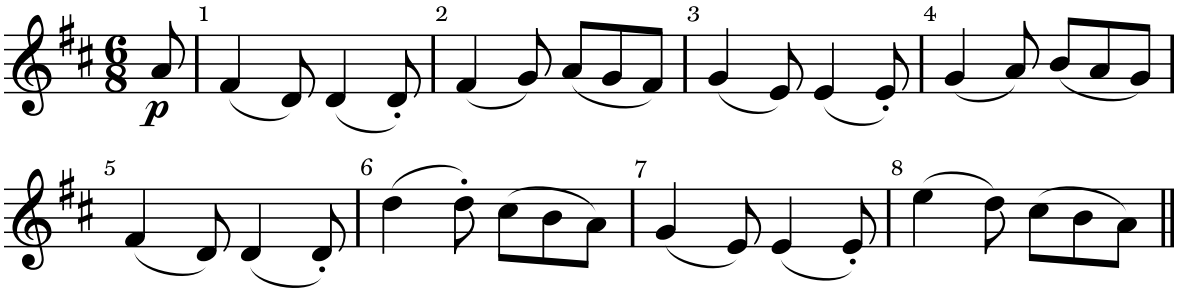
EXAMPLE 25.14: Mozart, *Variations*, Variation VIII, mm. 193–196



Timbral Variation Unlike a set of piano variations, those in the fourth movement of Holst's Second Suite explore a wide range of timbral combinations. Example 25.15 shows the opening theme, played softly by only three performers (E♭ clarinet, alto saxophone, and tenor saxophone). Now listen, following your anthology score, to measures 41–48, where almost the entire band is playing—a contrast in timbre, musical range, dynamic level, and texture. In the rest of the variations, Holst passes the melody to every section of the band in turn, exploring timbre and texture by changing instrumental colors and building up

layers. Some later variation sets, like this one from the early twentieth century, combine elements of sectional and continuous variations.

EXAMPLE 25.15: Holst, Second Suite in F Major, mvt. 4, mm. 1–8



SUMMARY

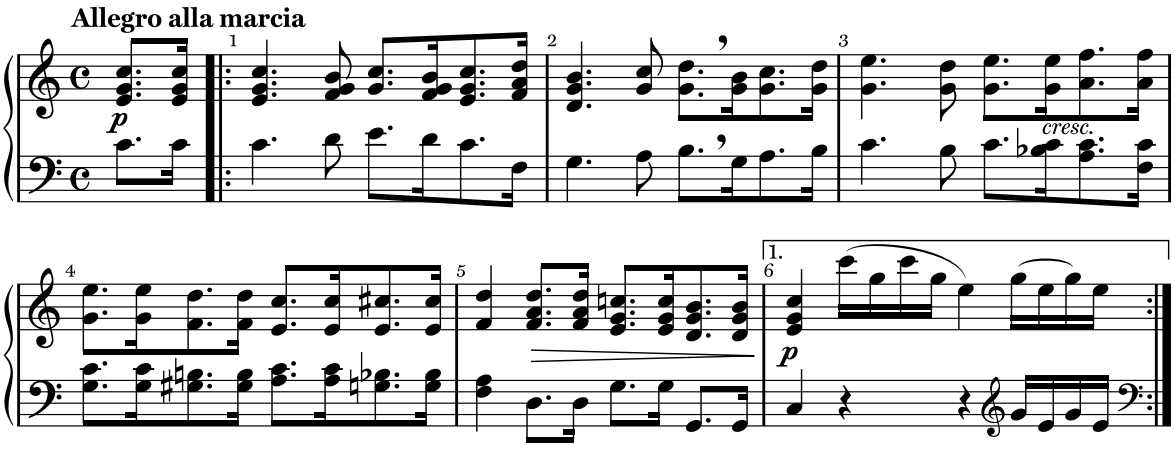
In sectional variations:

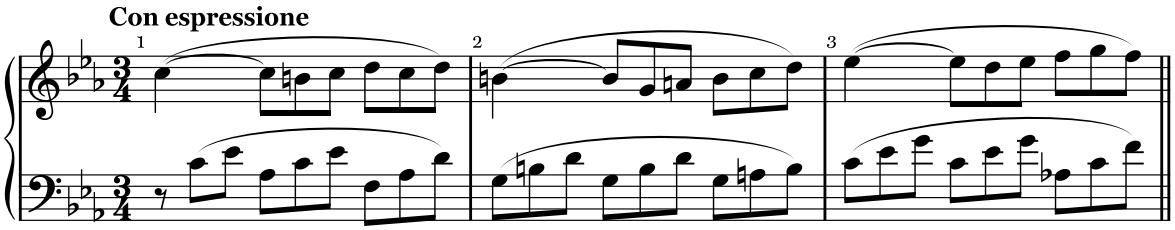
- The theme constitutes a complete, harmonically closed little piece, and serves as the basis for the variations.
- A particular variation may employ figural, chromatic, textural, timbral, or other type of variation procedure. Feel free to combine the labels as needed, or come up with your own to describe what you are hearing.

Musical Topics

Some variations are designed to represent a particular style or character—generally called a **musical** "**topic**." Musical topics were widely used as design elements in Classical and early Romantic instrumental music as a way of evoking a location (pastorale), activity (hunt), emotion (*Sturm und Drang*; storm and stress, or tragic), or musical style (minuet). They engage melodic, harmonic, rhythmic, or textural features to help the listener recognize the "cross reference." When an entire variation is consistent in the topic evoked, it is referred to as a **character variation**.

Several variations from Beethoven's *Variations on "God Save the King"* are of this type. Listen to Example 25.16, an excerpt from Variation VI. Here, the tempo, meter, and rhythmic patterns are all typical of march (or military) style; there are even "trumpet flourishes" in the last measure. The march strongly contrasts with the previous variation in this set, a lyrical, minor-mode serenade (Example 25.17), whose melody is in "singing style"—another musical topic. Although a character variation may feature a repeated melodic or rhythmic figure, it differs from a figural variation in that the figure itself is not the driving impetus; the entire texture represents the "character."

EXAMPLE 25.16: Beethoven, *Variations on "God Save the King,"* Variation VI, mm. 1–6

EXAMPLE 25.17: Beethoven, *Variations on "God Save the King,"* Variation V, mm. 1–3



Frequently encountered musical topics are listed below; some allude to a style of piece, while others invoke emotional states, locations, or musical textures. These may come to seem obvious once you are familiar with them; still, their identification can be subjective, depending on how you hear the passage and how the performer interprets it.

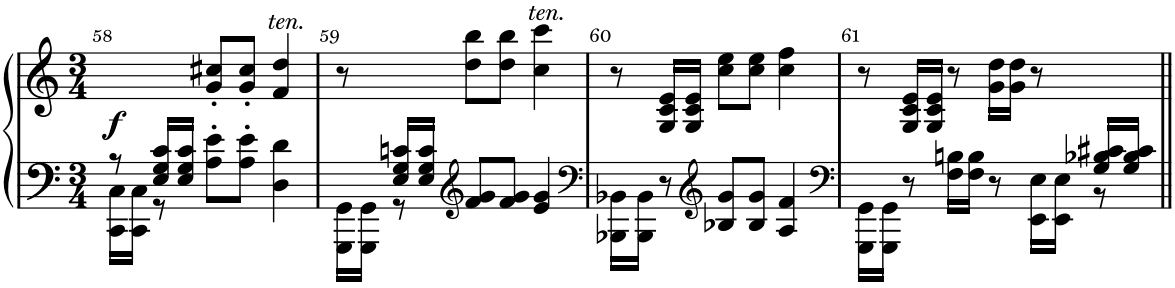
Types of pieces:
- aria
- cadenza
- fantasia
- French overture
- hymn
- invention
- march
- minuet
- musette

Other topics:
- bravura
- brilliant style
- fanfare
- hunt style
- learned counterpoint
- pastorale
- orchestral tutti
- sigh motive
- singing style

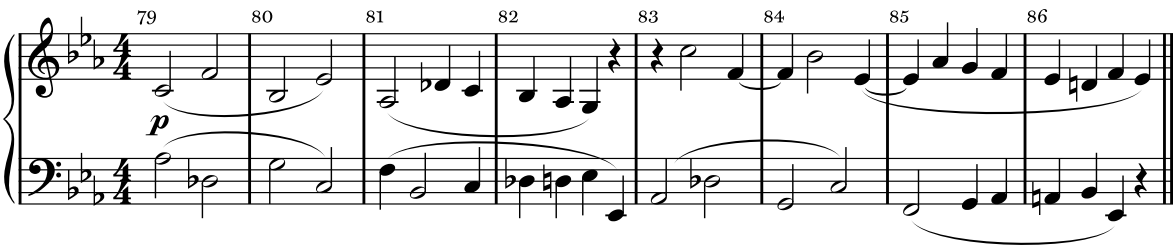
recitative
sarabande

Sturm und Drang

Beethoven's Variation IV (Example 25.18) displays a **bravura** style—a dashing, theatrical, showy passage requiring great skill and energy.

EXAMPLE 25.18: Beethoven, *Variations*, Variation IV, mm. 58–61

The passage shown in Example 25.19, from the third movement of Beethoven's *Pathétique* Sonata, reflects **learned** style, a reference to species counterpoint, with its half-note durations and the points of imitation, inversion, diminution, and augmentation characteristic of Baroque fugues. We will learn more about musical topics in later chapters, as we consider examples in which they are invoked.

EXAMPLE 25.19: Beethoven, *Pathétique* Sonata, mvt. 3, mm. 79–86



Performing Variations

In the centuries before recorded music, variation movements were an ideal format for listeners who might hear a piece of music only one time. They would listen to the initial idea—perhaps a familiar chord progression or tune—then follow the transformation of the idea through a series of variations without having to hear the work several times to perceive its organization. When performing variations, however, you need not "bring out" the theme each time you play it. Instead, shape the music in a way that is appropriate to the style, being aware of the repeated theme but not overemphasizing it.

A first step in preparing a variation set for performance might be to locate each presentation of the theme. In the case of continuous variations, you may want to choose an articulation for the bass line that remains consistent so that the beginning of each repetition is clear without being emphasized. In sectional variations, be careful that you don't "miss the forest for the trees"—that is, that you don't overemphasize the embellishments and lose the theme. It is then the listeners' task to discern the increasingly disguised melody, the repeated bass line, or the varied harmonic progression as the set progresses—if they wish to listen that way.

To further prepare for performance, determine the style or character of individual variations. If there are passages that might represent musical topics, consider how you can make that character clear. Understanding the role of overall form—especially paired or grouped variations, rhythmic acceleration, contrasting sections, and the dramatic shaping of the set—will help you achieve the sweep and grace of a well-designed variation movement in performance.

Did You Know?

Musical "character" was an important element to composers of the eighteenth century, as evidenced by the many treatises and reference works that refer to it. The German word *Charakter* includes various nuances; to get a sense of some of these, think of a "character" in a play, and imagine a collegiate actor playing the part of someone much older or younger. To create the illusion that the actor is older, he may slow his step, use a cane, and hunch forward; to play someone much younger, she might roll her eyes and strike poses while pretending not to care about what is going on. Each portrayal requires characteristic timing, motion, and gestures to make the role believable. Add to this the meaning of "character" as a person's nature, and you have the point of reference for musical topics.

TERMS YOU SHOULD KNOW

chaconne
coda
ground bass
musical topic
passacaglia
rhythmic acceleration (rhythmic *crescendo*)
variation
- character
- chromatic
- contrapuntal
- continuous
- figural
- polyphonic
- sectional
- simplifying
- textural
- timbral

QUESTIONS FOR REVIEW

1. How do continuous variations differ from sectional variations?
2. In what ways may a theme be varied?
3. What are some types of larger structural organization in variation movements?
4. What are musical topics? How might they apply to variations?

5. In what ways can analysis inform a performance of variations?
6. In music for your own instrument, find an example of one of the following: (a) a continuous variation movement, (b) a sectional variation movement, (c) a movement combining sectional and continuous characteristics.

Know It? Show It!

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26 Modal Mixture

Outline

Harmonic color and text setting

Mixture chords

- The spelling and function of mixture chords
- Tonicizing mixture chords
- Embellishing tones
- Mixture and the cadential $\frac{6}{4}$ chord
- Intonation and performance
- Mixture in instrumental music

Mixture and modulation

Overview

In this chapter, we add harmonic color to pieces by incorporating chords from the parallel minor or major key. These dramatic and unexpected chords are especially effective in music with text, where the color change may highlight important words.

Repertoire

Wolfgang Amadeus Mozart

Piano Sonata in D Major, K. 284, mvt. 1

"Voi, che sapete" ("You Who Know"), from *The Marriage of Figaro*

Henry Purcell, "When I am laid in earth," from *Dido and Aeneas*

Franz Schubert

"Du bist die Ruh" ("You Are Rest")

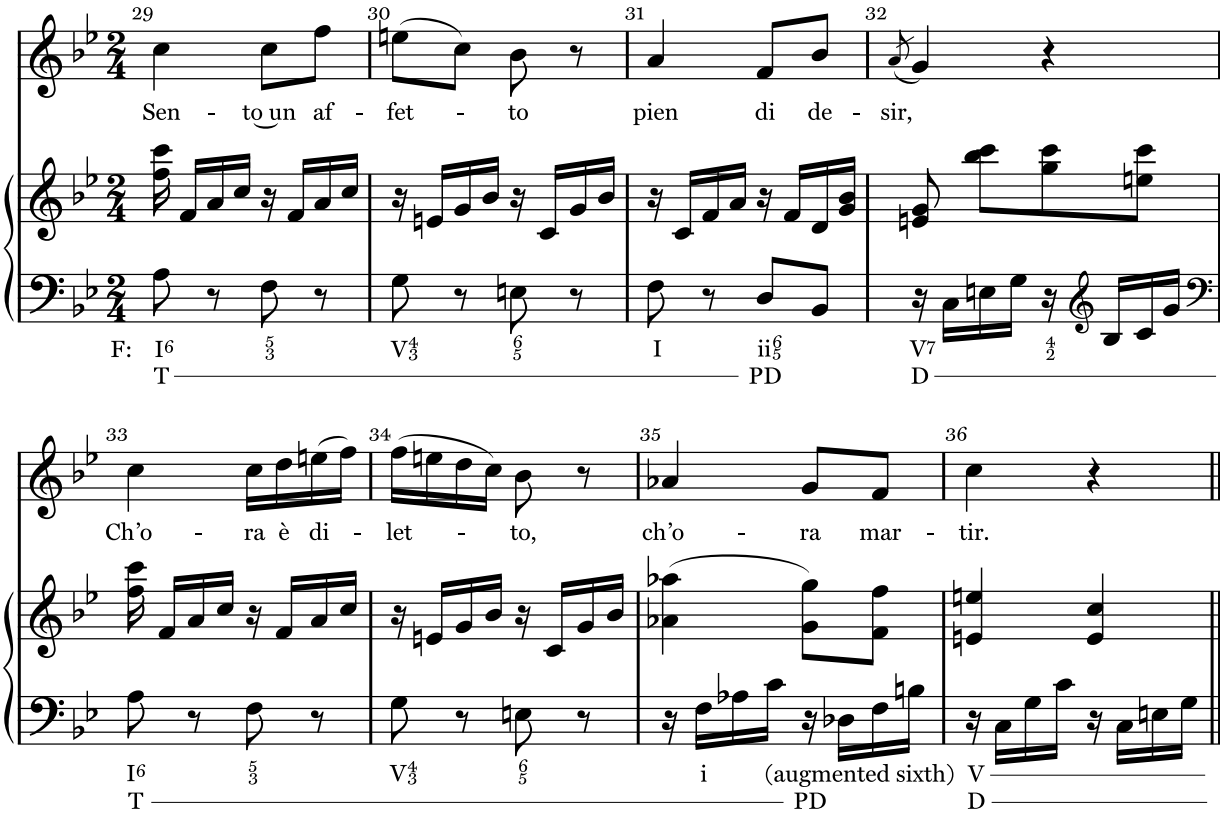
"Im Dorfe" ("In the Village"), from *Winterreise* (*Winter Journey*)

Moment musical in A♭ Major, Op. 94, No. 6

Robert Schumann, "Ich grolle nicht" ("I Bear No Grudge"), from *Dichterliebe* (*The Poet's Love*)

Harmonic Color and Text Setting

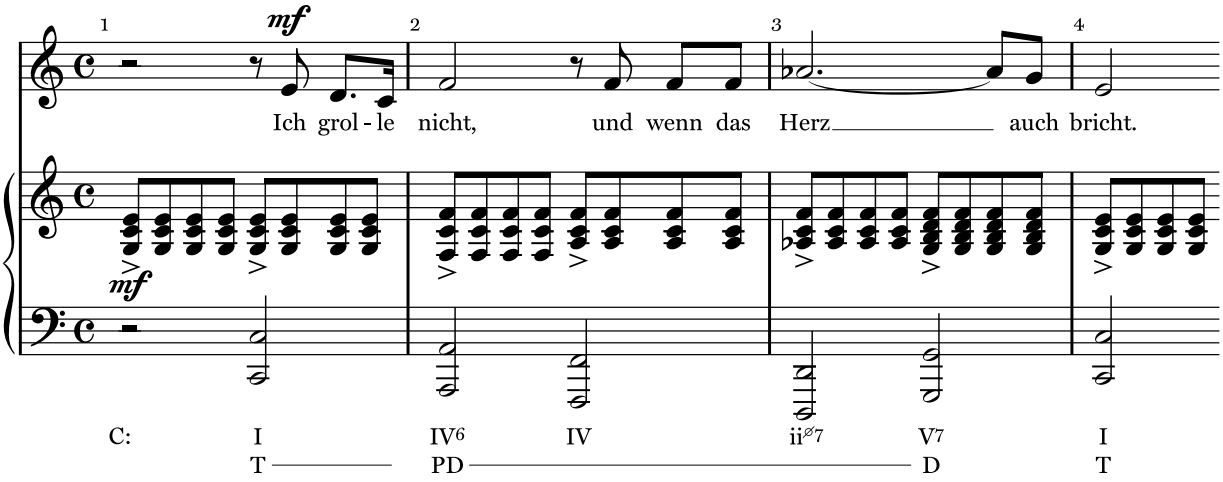
Begin by listening to excerpts from two contrasting vocal works: Mozart's "Voi, che sapete" and Schumann's "Ich grolle nicht." First read the text translations, given beneath Examples 26.1 and 26.2, and choose one important word or phrase that you would highlight musically if you were the composer. Then listen to see how these composers handle the texts.

EXAMPLE 26.1: Mozart, "Voi, che sapete," mm. 29–36

29
30
31
32
Sen - to un af - fet - to pien di de - sir,
F: I6 5/3 V4/3 6/5 I ii6/5 V7 4/2
T PD D
33
34
35
36
Ch'o - ra è di - let - to, ch'o - ra mar - tir.
I6 5/3 V4/3 6/5 i (augmented sixth) V
T PD D

Translation: I feel an emotion, full of desire, which now is pleasure, now is suffering.

The two phrases of Example 26.1 (mm. 29–32, 33–36) have a

parallel structure, but compare measures 31 and 35, and the shift in the vocal line from ♯3̂ to ♭3̂. This unexpected change of harmonic color makes measure 35 stand out from its surroundings and illuminates its text ("which now is … suffering"); the appearance of minor i instead of major I emphasizes the character Cherubino's state of simultaneous pleasure and pain. (The last chord in this measure, an augmented-sixth chord, will be explored in Chapter 27.)

EXAMPLE 26.2: Schumann, "Ich grolle nicht," mm. 1–4

Translation: I bear no grudge, even if my heart breaks.

In Example 26.2, Schumann highlights the word "Herz" with the longest-held pitch of the phrase and a striking A♭, which colors the accompanying supertonic seventh and changes it to a half-diminished sonority, depicting the singer's breaking heart. This shift from from ♯6̂ to ♭6̂–like Mozart's shift from ♯3̂ to ♭3̂ –is an example of mixture.

Mixture Chords

Modal **mixture**, a "mixing" of parallel major and minor modes, is a technique composers employ to enrich their melodic and harmonic palette with more expressive possibilities.

KEY CONCEPT Mixture is applied most often in major keys, where the modal scale degrees ♭$\hat{3}$, ♭$\hat{6}$, and ♭$\hat{7}$ are borrowed from the parallel natural minor. For this reason, mixture chords are sometimes called "borrowed chords." The most common mixture chords in major keys, aside from the minor tonic (i), are those that include ♭$\hat{6}$: ii$^{\circ 6}$, ii$^{\varnothing 6}_{5}$, iv, ♭VI, and vii$^{\circ 7}$.

To label a mixture chord:

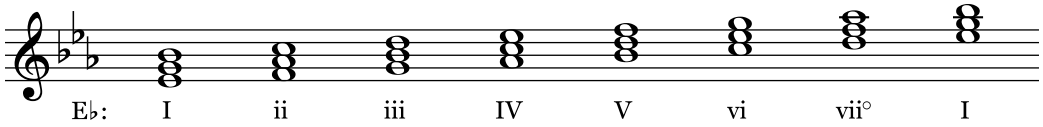
- Adjust the quality of the Roman numeral (uppercase for major or lowercase for minor).
- If necessary, add a ° or ø to a lowercase Roman numeral for a diminished triad or seventh chord.
- If the root has been lowered, add a ♭ before the Roman numeral (for example, ♭VI for a chord built on ♭$\hat{6}$).

For consistency, we will refer to the modal scale degrees as ♭$\hat{3}$, ♭$\hat{6}$, and ♭$\hat{7}$ and the common mixture chords created with them as ♭III, ♭VI, and ♭VII, even when they are spelled with naturals (in sharp keys) instead of flats.

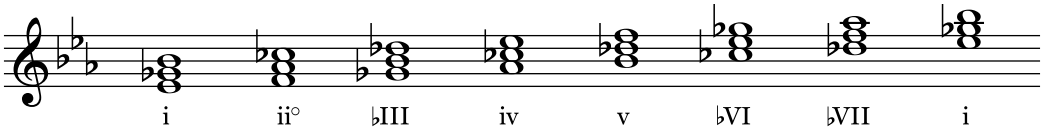
Example 26.3a shows triads built on each degree of an E♭ major scale. In part (b), the triads built on an E♭ natural minor scale are labeled as though they were mixture chords in E♭ major.

EXAMPLE 26.3: Roman numeral analysis of mixture chords

(a) Triads built on the E♭ major scale



(b) Triads built on the E♭ natural minor scale



mixture chords from E♭ minor

Try it #1

For each major key below, identify the key signature of the parallel minor (give the number of sharps or flats), and list the modal scale degrees.

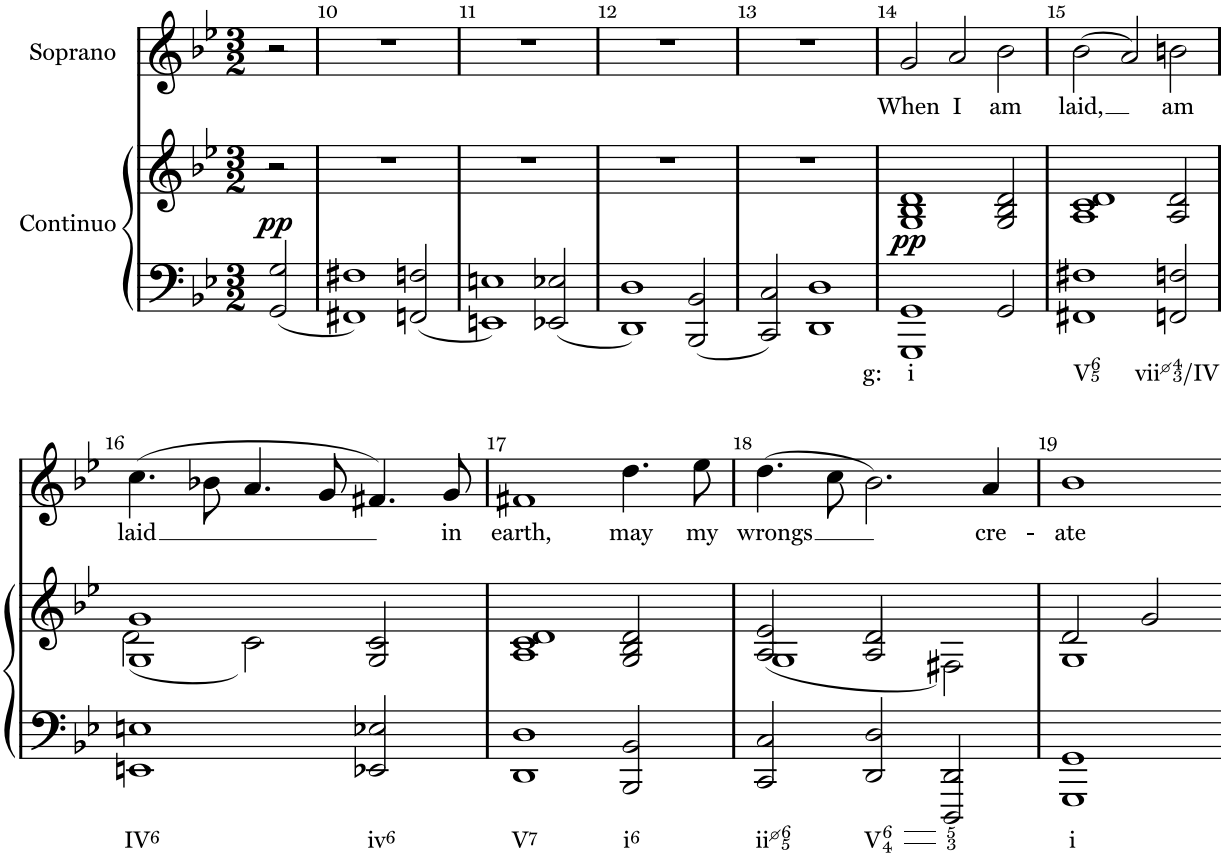
Show answers

KEY	PARALLEL MINOR SIGNATURE	♭$\hat{3}$	♭$\hat{6}$	♭$\hat{7}$
C major	3 flats			
E major				
B♭ major				
D major				
B major				

Minor keys offer fewer opportunities for these colorful and surprising changes of mode. Both versions of scale degrees $\hat{6}$ and $\hat{7}$ are routinely employed in harmonic progressions and melodic lines in minor; V and vii°, ostensibly from major, are commonplace, and minor v is used for a modal effect. Occasionally composers may transform the minor iv to IV, the major VI to vi, or the minor i to I (known as a "Picardy third" when placed at an authentic cadence). But the term "mixture"

almost always refers to a major-key passage.

One place where mixture chords are employed in minor is in a chromatic bass line, like the lament bass shown in Example 26.4. Various harmonizations of this bass are possible, but $\hat{7}$ (F♯) is usually set with V6 or V^6_5, $\flat\hat{7}$ (F) with v or a secondary dominant to IV or iv, and $\hat{6}$ (E) and $\flat\hat{6}$ (E♭) with IV6 and iv6, respectively.

EXAMPLE 26.4: Purcell, "When I am laid in earth," mm. 10–19

The Spelling and Function of Mixture Chords

Mixture chords have the same harmonic function and follow the same common-practice voice-leading guidelines as the diatonic chords they replace. Most typical in major keys are iv,

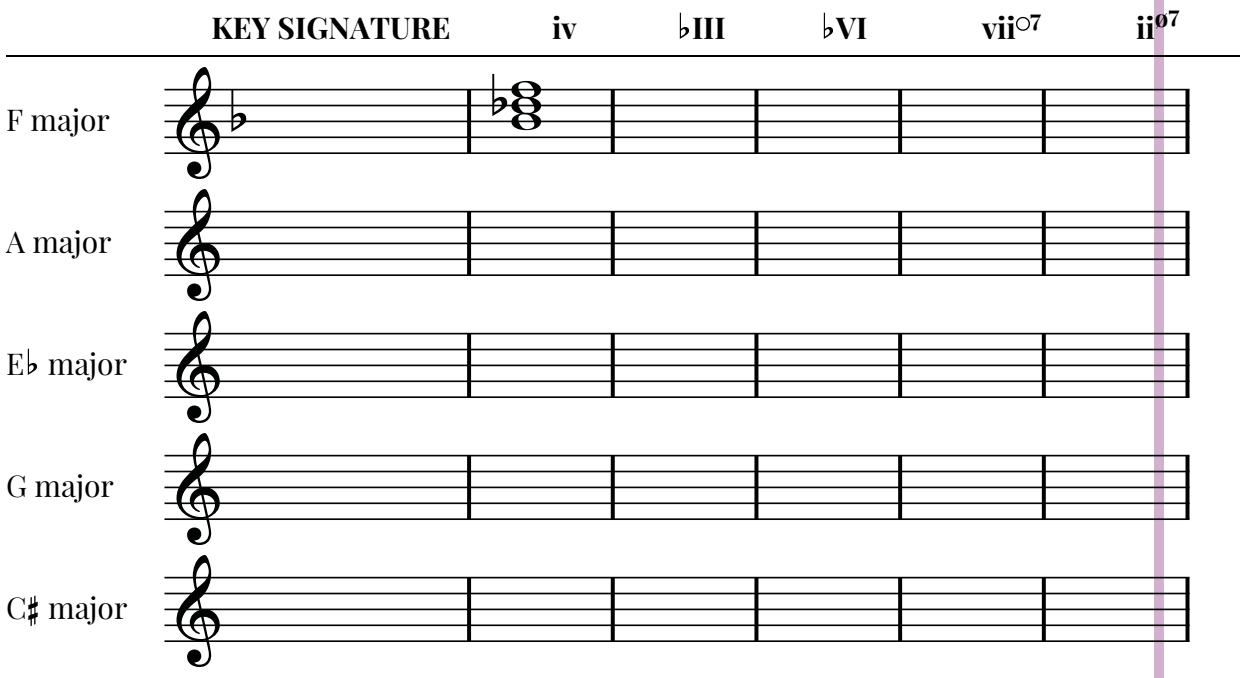
6 ○6 ø ○7

iv^{6}, ii$^{\circ 6}$, and ii$^{\varnothing 6/5}$ in the predominant area, and i, ♭VI, iv, vii$^{\circ 7}$, and their inversions to expand the tonic area. Spell mixture chords as if they appeared in the parallel minor key. For example, to spell iv in C major, imagine iv in C minor: F-A♭-C. To spell ♭VI in F major, imagine VI in F minor: D♭-F-A♭, and so on.

Try it #2

Spell the mixture chords requested in the major keys below. Begin with the key signature, then add accidentals borrowed from the parallel minor key to spell each chord.

Show answers



When part-writing or composing progressions with mixture chords, follow the same principles for doubling and voice-leading as in the parallel minor:

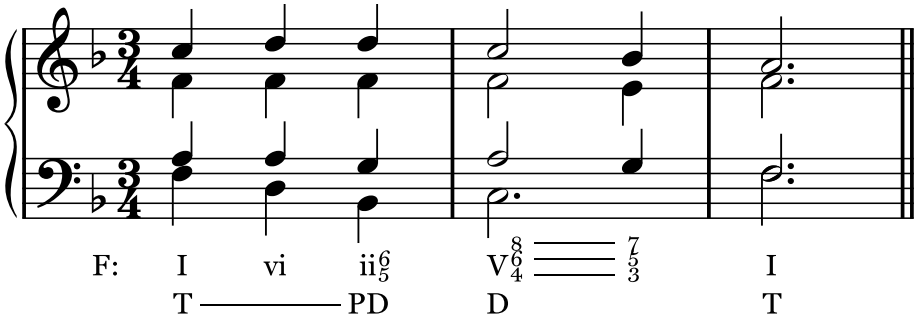
- double the root in a root-position chord;
- double any stable chord member in a first-inversion chord (often the soprano or bass);
- double the bass in a second-inversion chord; and
- double the third (usually in the bass) of a diminished chord.

"Borrowed" tones may be doubled, and the chords follow the basic phrase model, T–PD–D–T. For example, place iv or ii° in the predominant area, where you would expect IV or ii to precede V. Write ♭VI as a prolongation of the tonic area or for a dramatic deceptive cadence: V–♭VI. Another common progression with ♭VI descends by thirds: I–♭VI–iv. Use ♭VII as a secondary dominant to ♭III, and ♭III as a secondary dominant to ♭VI.

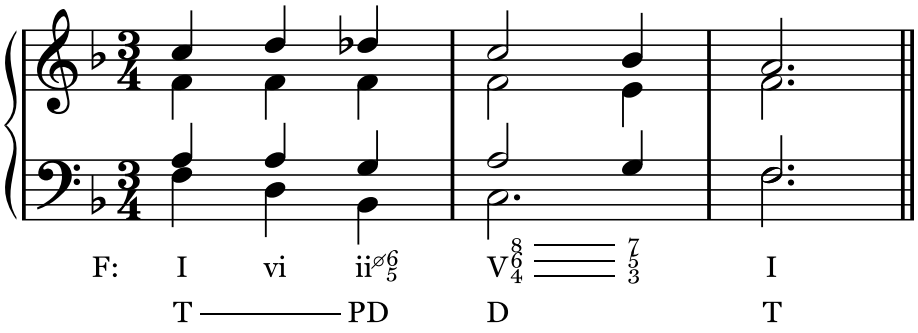
Examples 26.5 and 26.6 demonstrate how a standard basic phrase progression in major may be chromatically enriched by including mixture chords. In part (b) of Example 26.5, a standard T–PD–D–T progression in F major, only the ii$^{6}_{3}$ has been altered, to ii$^{ø6}_{5}$ (as in Example 26.2). Part (c) features mixture in both the predominant and dominant areas, including a cadential $^{6}_{4}$ with ♭$\hat{3}$. In (d), the opening and closing tonic triads are the only chords that ground the progression in a major key. Mixture can color less common progressions as well, such as I–iii–IV becoming I–♭III–iv.

EXAMPLE 26.5: Mixture chords in the basic phrase

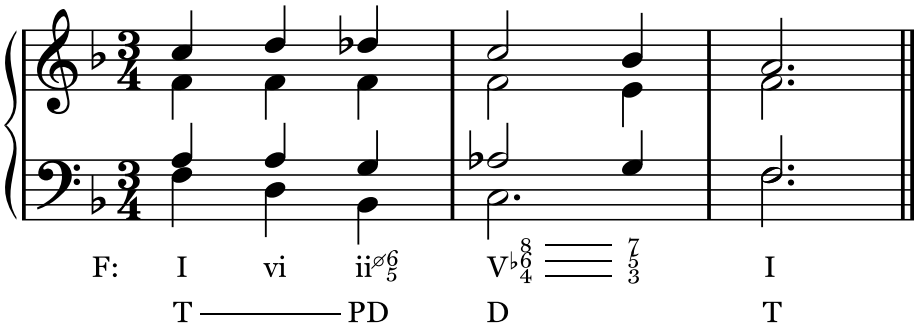
(a) Major-key phrase without mixture



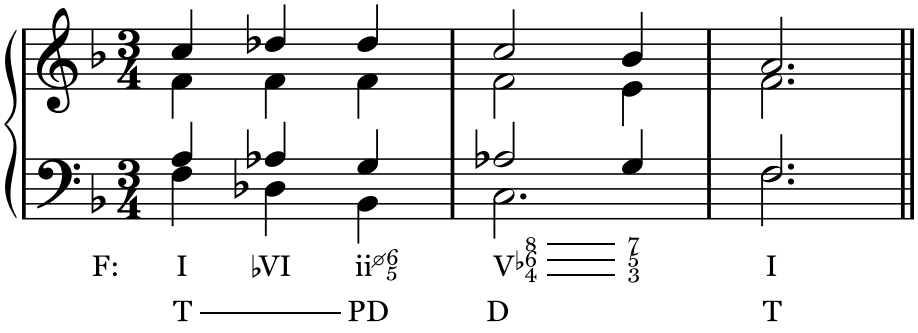
(b) Mixture in the predominant area only



(c) Mixture in the predominant and dominant areas



(d) Mixture permeating the phrase



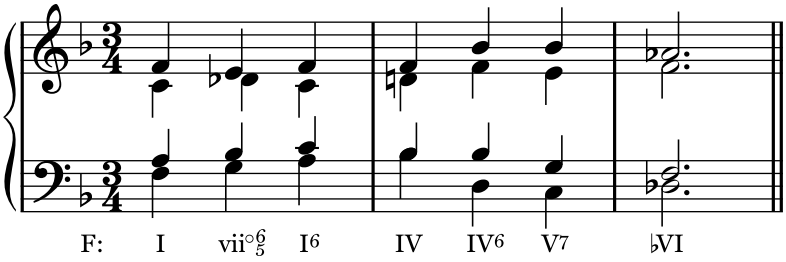
Example 26.6a features two common mixture chords: the diminished vii°7 chord and a deceptive cadence to ♭VI. This alteration of the leading-tone seventh chord (introduced in Chapter 17) softens the dissonance of the diatonic vii⁰7 and may

be used in passages that do not otherwise feature mixture. Listen to the effect of the V7–♭VI cadence in part (a), rendered all the more surprising by the half-step motion in the bass and the major quality. The ♭VI chord always involves two alterations: ♭$\hat{3}$ and ♭$\hat{6}$.

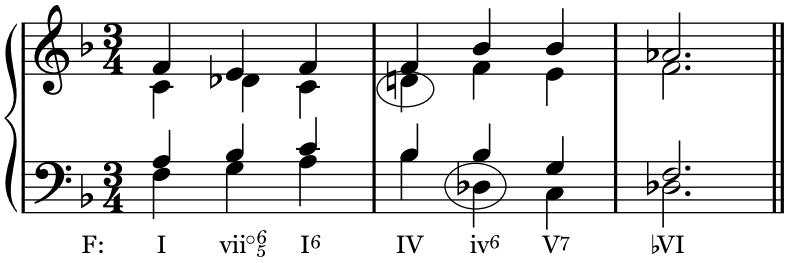
Measure 2 of part (b) illustrates one potential voice-leading problem that may arise when a major triad is shifted through mixture to minor: a cross-relation results when a diatonic pitch (D4 in the alto) is altered chromatically in the next chord in a different voice (D♭3 in the bass). The voice-leading will be much smoother if the IV chord on beat 1 is placed in first inversion so that the bass (D) can move chromatically down from $\hat{6}$ to ♭$\hat{6}$ to $\hat{5}$. Another alternative, shown in part (c), is to introduce mixture one beat earlier, with a root-position iv.

EXAMPLE 26.6: More progressions with mixture chords

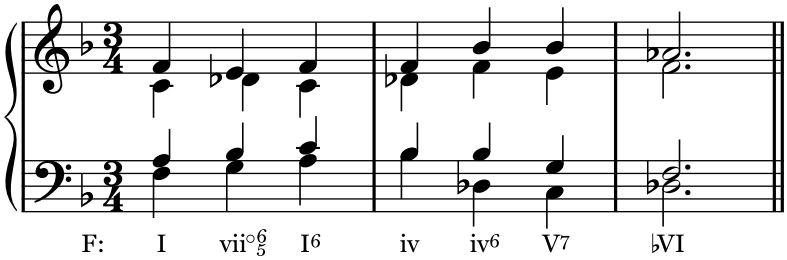
(a) Mixture chords in a tonic expansion and deceptive cadence



(b) Mixture chord giving rise to a cross relation (avoid)



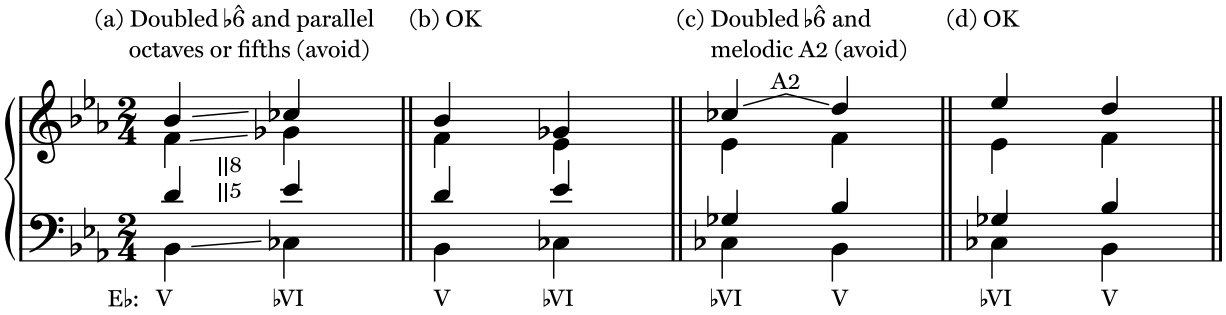
(c) Mixture chords permeating the phrase, except for tonic triads



KEY CONCEPT Pay careful attention to altered tones that may create melodic augmented seconds in any voice. Where possible, keep the chromatic semitone (half-step motion between two notes with the same letter name) in a single voice to avoid cross relations, especially between the outer voices. As a general rule, in major keys resolve chromatic tones that arise from mixture down, since they are derived from lowered scale degrees: for example, ♭$\hat{6}$–$\hat{5}$.

Occasionally you will need to change the standard doubling guidelines for smooth voice-leading or to avoid parallels (see Example 26.7). When writing the progression V–♭VI or ♭VI–V, avoid doubling ♭$\hat{6}$, since this creates parallel octaves moving $\hat{5}$–♭$\hat{6}$ or $\hat{6}$ to ♭$\hat{5}$ (part a) or a melodic augmented second ♭$\hat{6}$ to $\hat{7}$ (part c). Remember also, when setting a stepwise bass, to move the upper voices in contrary motion to the bass where possible.

EXAMPLE 26.7: Doubling in V–♭VI or ♭VI–V

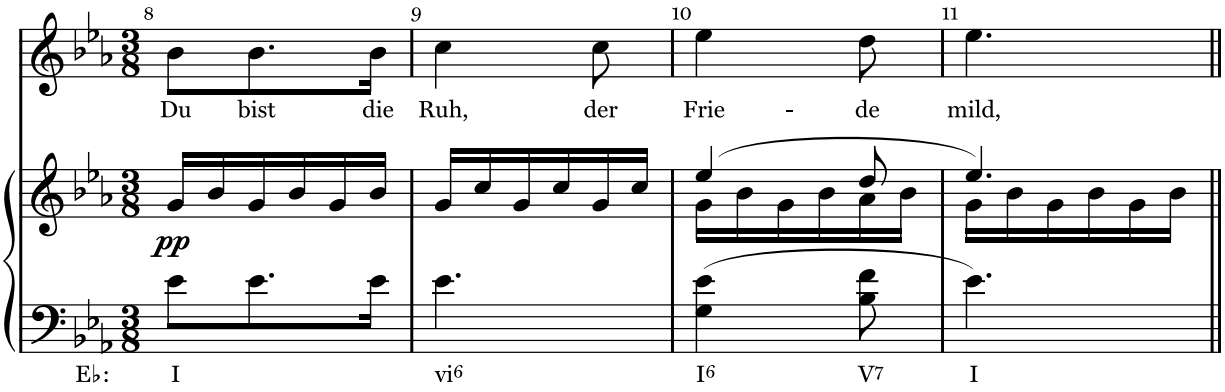


Tonicizing Mixture Chords

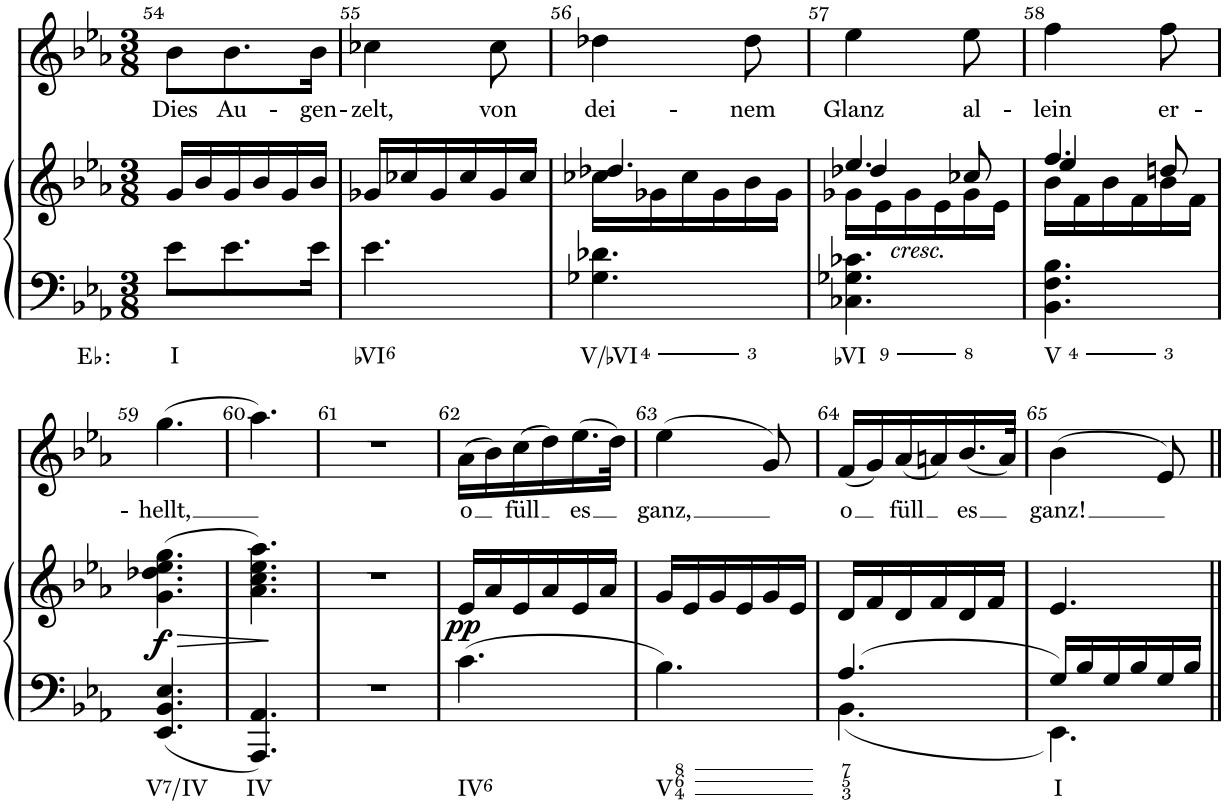
When you write secondary dominant or leading-tone chords to tonicize a mixture chord, follow the normal guidelines for spelling and resolution, but be careful to include all necessary chromatic alterations to achieve the correct chord quality (Mm7 or °7). Look, for example, at Example 26.8, and compare the two parts. Part (a) gives the singer's opening vocal phrase, a completely diatonic setting with a quiet accompaniment that depicts the peaceful imagery of the text. Part (b), however, turns to a passionate statement of love. In measures 54–55, the expected I–vi6 motion of measures 8–9 is transformed into I–♭VI6. This progression highlights the word "Augenzelt" (tabernacle of my eyes) and introduces the accidentals G♭ (♭3̂) and C♭ (♭6̂).

EXAMPLE 26.8: Schubert, "Du bist die Ruh"

(a) Mm. 8–11



Translation: You are rest, the gentle peace.

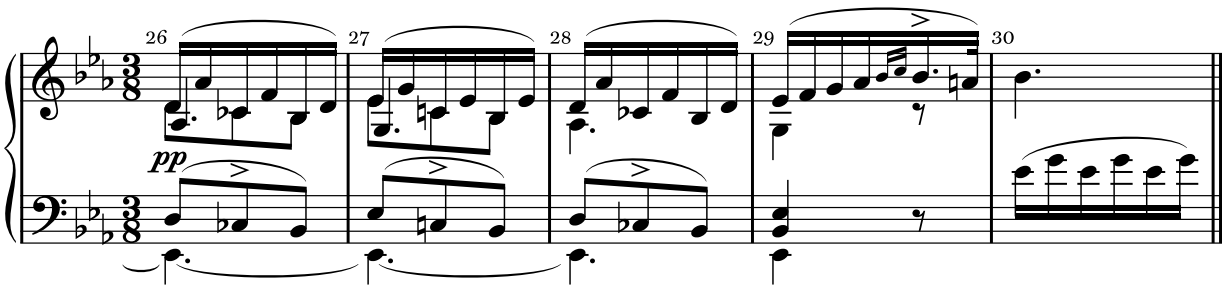
(b) Mm. 54–65

Translation: The tabernacle of my eyes from your splendor alone is illuminated, oh fill it completely!

Consider how the harmonic analysis above can help shape a performance of this passage. First, the introduction of C♭ in the vocal line at measure 55 is an unexpected and dramatic moment. One way to interpret it is for the pianist and singer to hesitate here almost imperceptibly between measures 54 and 55, then continue in tempo—perhaps even pushing the tempo forward a bit until the climax of the phrase, lingering on the temporary tonicization of IV, setting the word "erhellt" (illuminated). This is not the end of the phrase, however: a phrase is defined by a cadence, which in this passage does not arrive until 64–65. You may want to lengthen the tension-filled silence in measure 61 slightly, before continuing the phrase in measure 62 with a startling change of mood, dynamic, tessitura, and harmonies. The gentle music concludes with not a hint of the dissonance and chromaticism (suspensions, mixture chords, and secondary dominants) that shaped the first half of the phrase.

Embellishing Tones

Mixture can also serve as an expressive embellishment in melodic lines, without necessarily borrowing whole chords from the parallel key. Sometimes melodic mixture foreshadows mixture chords or modulations occurring later in a work. Listen, for instance, to the passage in Example 26.9, an interlude that falls between verses of "Du bist die Ruh." Up to this point, Schubert's setting has been mostly diatonic, except for the chromatic ♭3 (G♭) in measure 16. In measure 26, he introduces ♭6 (C♭) as a passing tone, then emphasizes this chromatic embellishment by alternating between C♮ and C♭ in the following measures. These two chromatic notes prepare the mixture chords that arrive some twenty measures later—a type of chromatic "foreshadowing" that is a hallmark of Schubert's style.

EXAMPLE 26.9: Schubert, "Du bist die Ruh," mm. 26–30



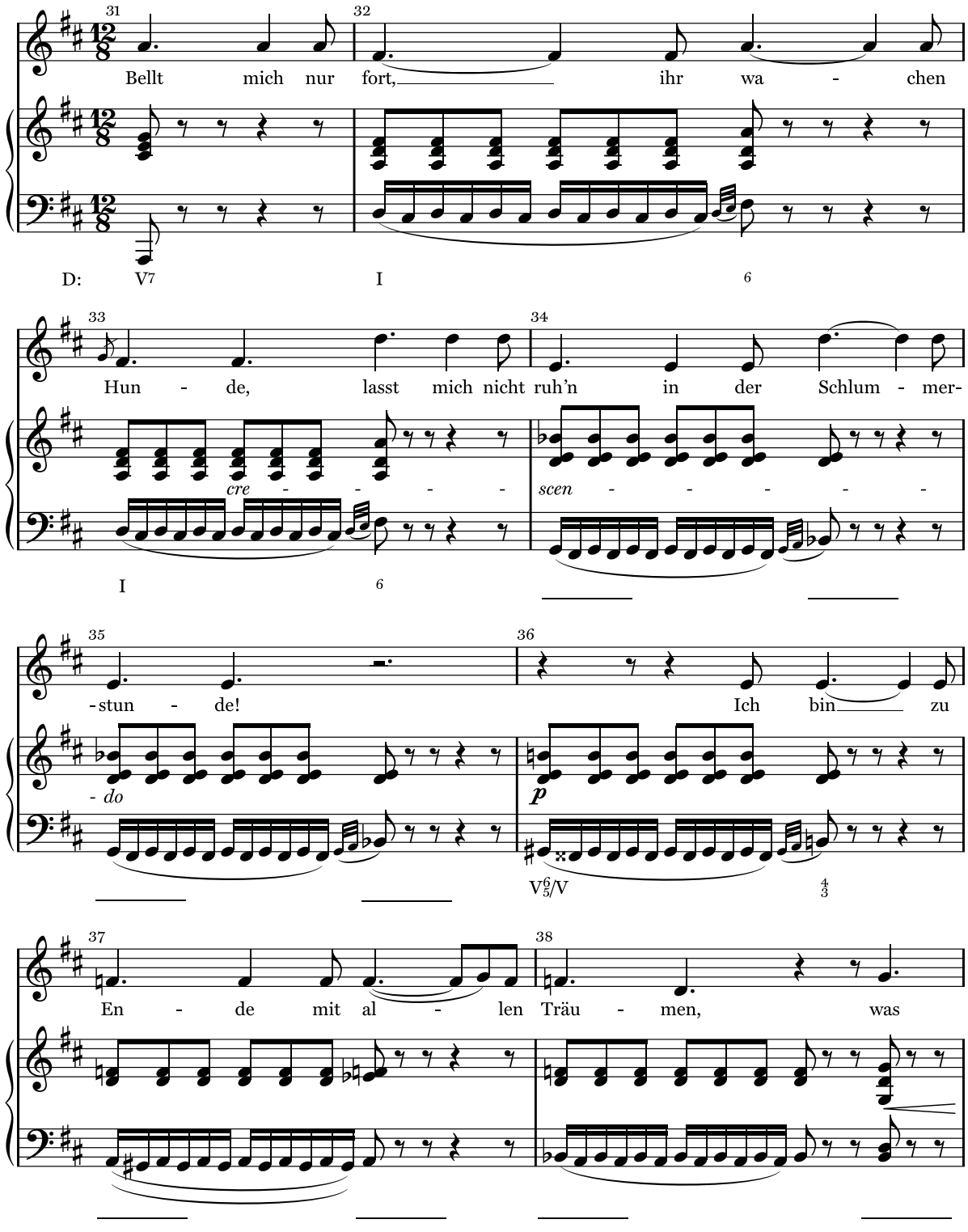
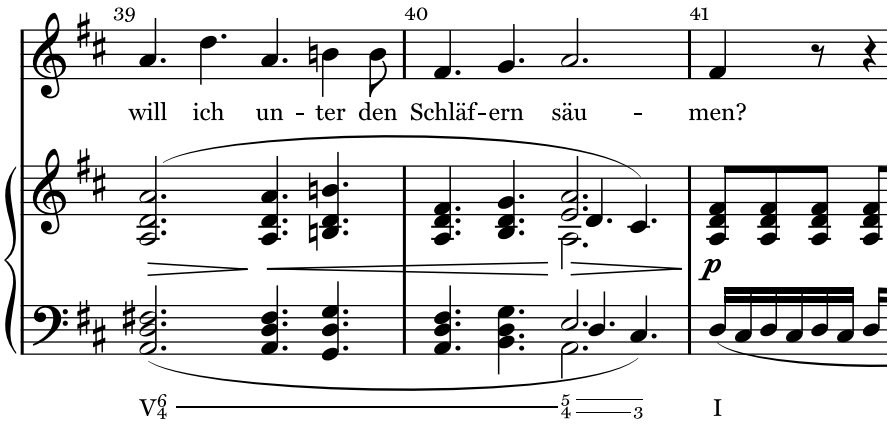
Mixture and the Cadential $\frac{6}{4}$ Chord

Listen now to two final excerpts by Schubert, from "Im Dorfe," shown in Examples 26.10 and 26.11. This song is highly colored by mixture and provides a good summary and review of mixture chords in major-key compositions.

Try it #3

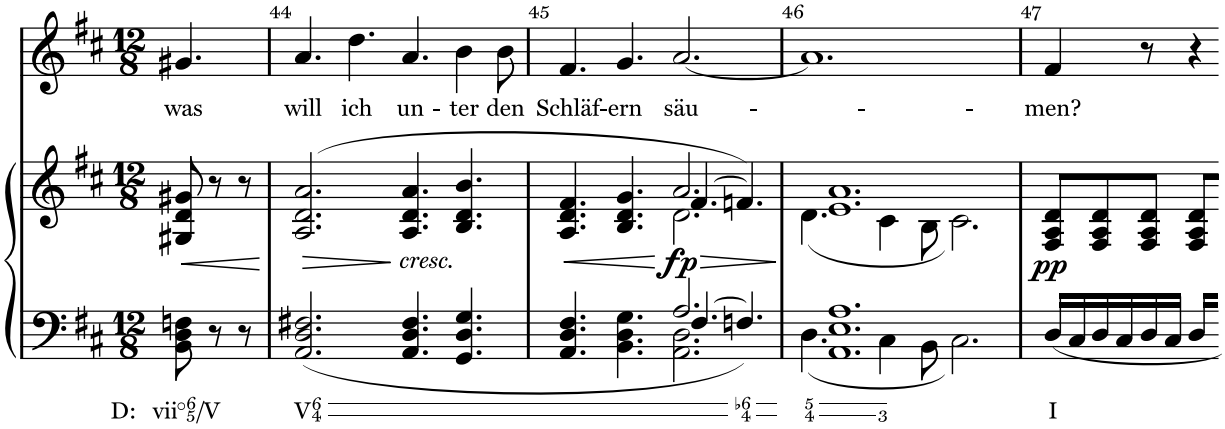
Example 26.10 is partially analyzed with Roman numerals. Where there is a blank below the staff, provide the appropriate Roman numeral for the mixture chord.

Show answers

EXAMPLE 26.10: Schubert, "Im Dorfe," mm. 31–41

31
32
Bellt mich nur fort, ihr wa - chen
D: V7 I 6
33
34
Hun - de, lasst mich nicht ruh'n in der Schlum - mer-
cre - - - -
scen - - - - -
I 6
35
36
-stun - de! Ich bin zu
- do
p
V6/5/V 4/3
37
38
En - de mit al - len Träu - men, was

Translation: Bark me away, you watchdogs, don't let me rest in the hour of slumber. I am finished with all dreams, why should I linger among the sleepers?

In measures 39–40, a cadential $\frac{6}{4}$ chord is prolonged by neighbor and passing tones. In a parallel passage, measures 44–46 (Example 26.11), the cadential $\frac{6}{4}$ is colored by mixture. Add an accidental to the figures here to indicate that the sixth above the bass has been lowered: $V\frac{6}{4}\text{-}\flat\frac{6}{4}\text{-}\frac{5}{3}$.

EXAMPLE 26.11: Schubert, "Im Dorfe," mm. 43–47



Intonation and Performance

If you are a singer or play an instrument (such as the violin) that requires careful attention to intonation, you may find that passages with mixture are more difficult to sing or play in tune. If that is the case, try drawing on a sight-singing strategy for intonation.

KEY CONCEPT To sing or play passages that include mixture pitches, use altered (movable-*do*) solfège syllables.

$\hat{3} \rightarrow \flat\hat{3}$: *mi* becomes *me*

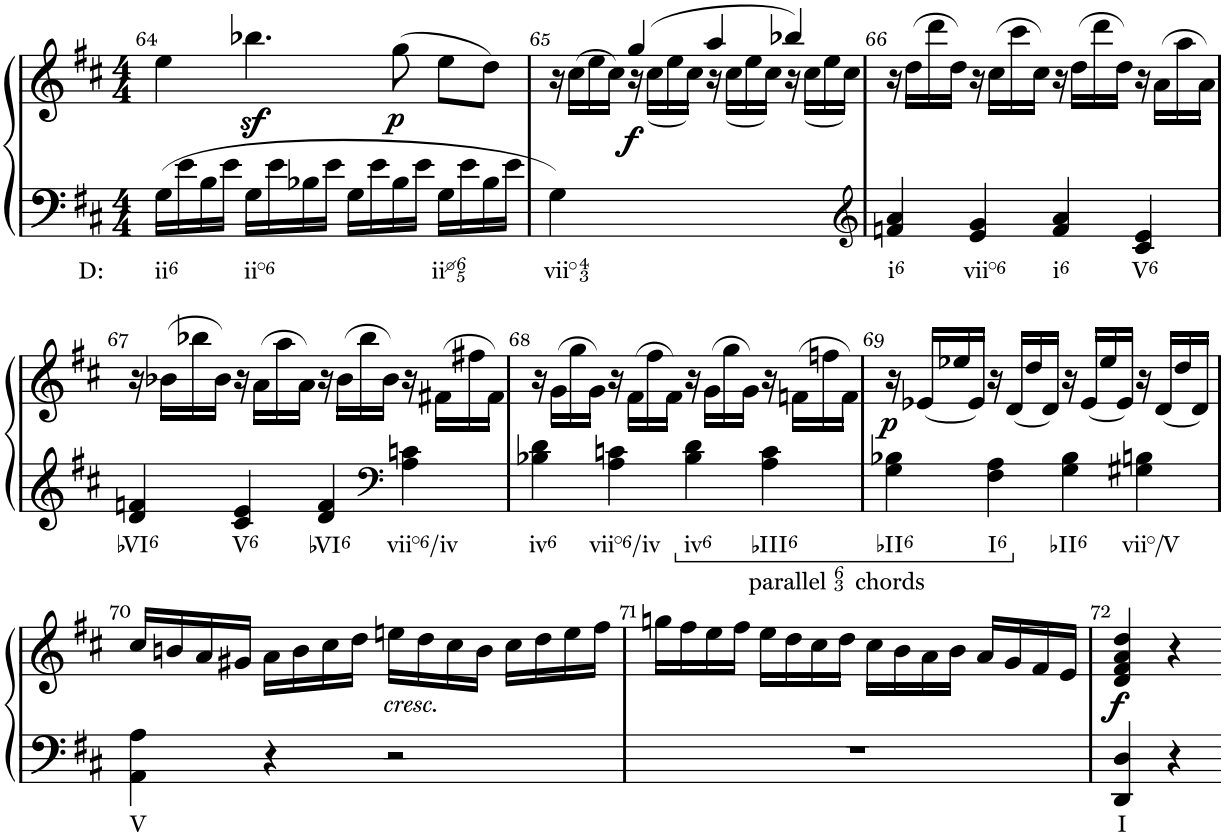
$\hat{6} \rightarrow \flat\hat{6}$: *la* becomes *le*

$\hat{7} \rightarrow \flat\hat{7}$: *ti* becomes *te*

In Example 26.10, for instance, the melody of measures 36–38 is *re–me–fa–me–do* ($\hat{2}$–$\flat\hat{3}$–$\hat{4}$–$\flat\hat{3}$–$\hat{1}$); changing the syllable from *mi* to *me* can remind you of the narrow half step that mixture provides here. In contrast, in measure 39, the vocalist sings the diatonic *la*, not *le* ($\hat{6}$, not $\flat\hat{6}$) on "unter," despite the prolonged $\flat\hat{6}$ (B♭) in the piano the measure before. Careful distinction between diatonic and lowered scale degrees is essential for performing passages with mixture. Finally, to appreciate the implications of mixture for the interpretation of the text, you need to find a good translation (not a "singing translation," which may change the meaning slightly) if the song is not in English. Then check the meaning of any words set with chromatic inflection or mixture chords. In "Im Dorfe," the use of $\flat\hat{3}$ for the words "finished" and "dreams" may foreshadow the protagonist's unhappy end.

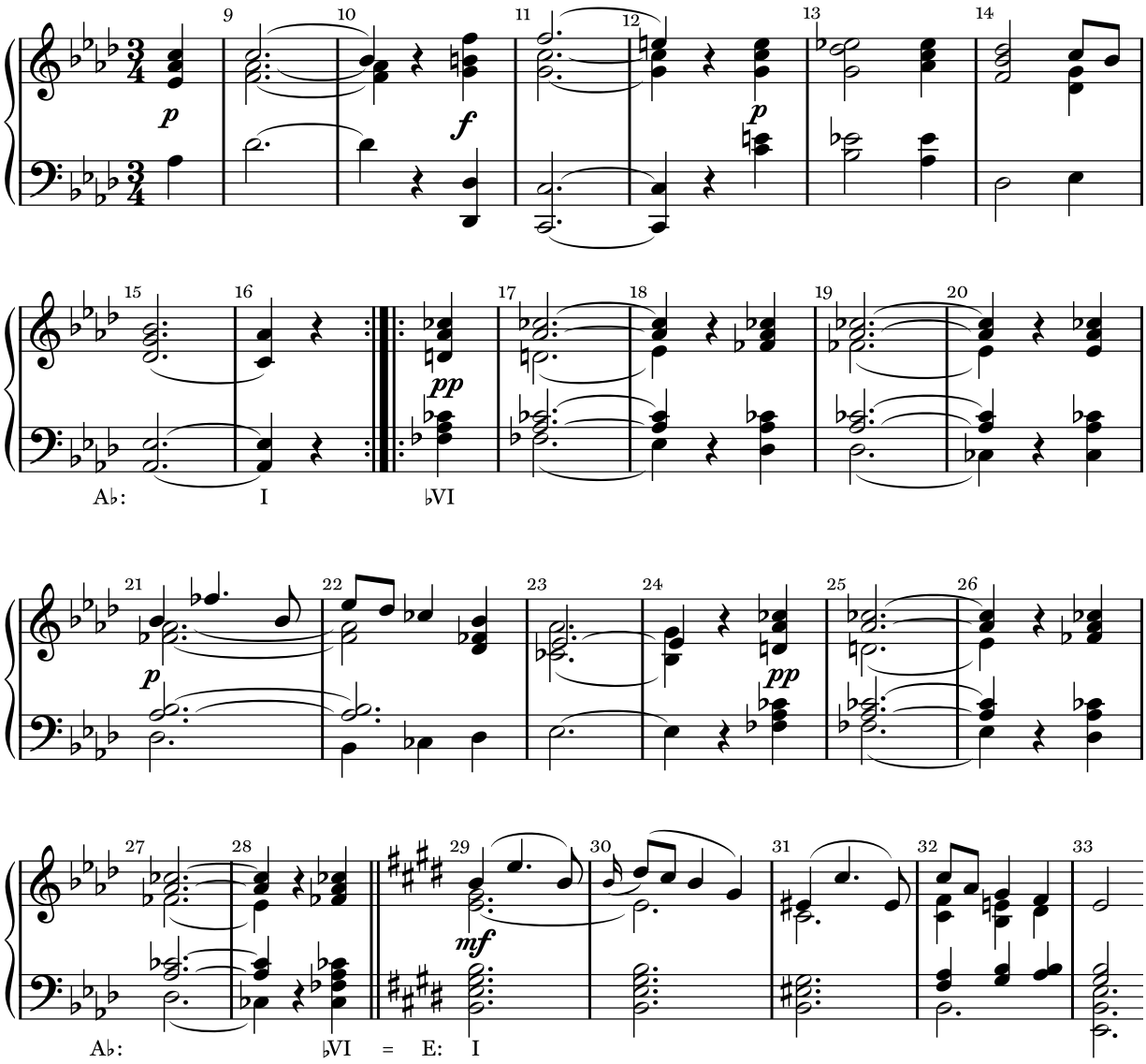
Mixture in Instrumental Music

In addition to highlighting important text in vocal music, mixture chords can create an analogous effect in instrumental music. Listen to a dramatic passage with pervasive mixture from a Mozart sonata (Example 26.12).

EXAMPLE 26.12: Mozart, Piano Sonata in D Major, mvt. 1, mm. 64–72

Here, as is typical, the mixture chords are mostly predominant harmonies in a transitional passage leading to V in measure 70. In measure 64, Mozart begins with a diatonic ii6, which is colored on beat 2 by B♭ (♭$\hat{6}$), derived from mixture. The predominant harmony then intensifies to ii⌀6/5, leading to a fully diminished vii°$\frac{4}{3}$ (its quality results from the B♭5 on beat 4) that resolves to a minor tonic (with the introduction of F♮, ♭$\hat{3}$). The following measures introduce ♭VI, iv, and ♭III as well. (Measure 69 introduces a new harmony that will be the topic of Chapter 27: ♭II6.)

Mixture and Modulation

Mixture can color longer spans of music when a piece modulates to the key of a mixture chord. Often composers introduce elements of mixture within the primary key to prepare for such a modulation. Look, for example, at the excerpt from Schubert's *Moment musical* in Example 26.13. After the repeat sign, Schubert introduces the modal scale degrees ♭$\hat{3}$ (C♭) and ♭$\hat{6}$ (F♭) in a transitional chromatic section (mm. 17–28) that leads to a new phrase clearly in E major (in m. 29), complete with change of key signature—an enharmonic respelling of ♭VI (F♭ major). Seemingly distant key relations, especially in Romantic-era pieces, may be considered tonicizations of respelled mixture chords—allowing the performer to read the score in a more comfortable key.

EXAMPLE 26.13: Schubert, *Moment musical* in A♭ Major, mm. 9–33

SUMMARY

Mixture chords expand composers' harmonic possibilities by drawing on pitches and harmonies from the parallel key. These unexpected chords are often used for dramatic effect.

- Mixture is more common in major keys, where ♭$\hat{3}$, ♭$\hat{6}$, or ♭$\hat{7}$ is borrowed from minor.
- Such chords often (but not always) have a predominant function.

- Roman numerals reflect the quality of the mixture chord; for consistency, we write ♭III, ♭VI, and ♭VII even in sharp keys.
- Mixture chords may be tonicized (e.g., $V^7/♭III$) or may be the goal of a modulation.
- Composers often foreshadow such a modulation by introducing the scale degrees of the new key earlier as embellishing tones (e.g., a ♭$\hat{6}$ neighbor to $\hat{5}$ foreshadows a modulation to the key of ♭VI).

Did You Know?

Text painting was not new with Classical- and Romantic-era music. Renaissance composers sometimes used melodic patterns and rhythms to represent bird cries or other natural sounds, or they might depict heaven or a word like "ascending" with a rising melodic line.

Certain Baroque composers employed chromaticism to convey pain or death (see, for example, Bach's settings of the Passion chorale "O Haupt voll Blut und Wunden"). Their chromatic alterations typically involved inflections within a melodic line and secondary dominants or diminished seventh chords, rather than mixture chords. Bach also used suspensions and other types of accented dissonance to help portray death.

Another feature of Baroque composition was the use of "nontempered" tunings, in which different keys sounded distinctive; thus the key or mode used by a composer was, on its own, enough to convey an emotion. The types of rhythms and meter selected by the composer were also an important key to the "affect," or mood, of the piece. For example, long-note durations (whole and half notes, indicating a slow tempo) might represent majesty or

grandeur; short-note durations (indicating a quick tempo) might represent gaiety. The interplay of text and music is a rich area for exploration as you prepare vocal music for performance.

TERMS YOU SHOULD KNOW

borrowed chord
lament bass
mixture
modal scale degree
parallel key
Picardy third

QUESTIONS FOR REVIEW

1. What does the term “mixture chord” signify? Why are such chords sometimes called “borrowed chords”?
2. What are the most common mixture chords in major keys? Where in the phrase do they typically appear?
3. What are the most common mixture chords in minor keys, and where in the phrase do they typically appear?
4. Explain how to label mixture chords with Roman numerals.
5. What part-writing guidelines apply to mixture chords?
6. What alterations are needed in solfège syllables when singing mixture chords?
7. In a major-key piece for your own instrument, find a passage that includes mixture chords and bring it to class. (Hint: Look in Romantic-era pieces, and hunt for characteristic alterations such as ♭3̂ and ♭6̂.) Be prepared to analyze with Roman numerals and sing the melodic line on solfège syllables.

Know It? Show It!

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27 The Neapolitan Sixth and Augmented-Sixth Chords

Outline

Chromatic predominant chords

The Neapolitan sixth
- Spelling and voicing
- Voice-leading and resolution
- Intonation and performance
- Tonicizing the Neapolitan

Augmented-sixth chords
- Voice-leading, spelling, and resolution
- Italian, French, and German augmented sixths
- Approaches to augmented-sixth chords
- Aural identification and performance
- Less common spellings and voicings
- Secondary augmented-sixth chords

Overview

This chapter considers two new ways in which chromatic voice-leading can intensify motion toward the dominant. The chords created by this voice-leading—the Neapolitan sixth and several types of augmented-sixth chords—are among the most distinctive

in tonal harmony.

Repertoire

Ludwig van Beethoven, Piano Sonata in C♯ Minor, Op. 27, No. 2 (*Moonlight*), mvt. 1

Frédéric Chopin, Prelude in C Minor, Op. 28, No. 20

Fanny Mendelssohn Hensel, “Nachtwanderer” (“Night Wanderer”)

Jerome Kern and Oscar Hammerstein II, “Can’t Help Lovin’ Dat Man,” from *Show Boat*

Wolfgang Amadeus Mozart

- Dies irae (Day of Wrath), from *Requiem*
- Piano Sonata in D Major, K. 284, mvt. 3
- String Quartet in D Minor, K. 421, mvt. 3

Franz Schubert

- “Der Doppelgänger” (“The Ghostly Double”), from *Schwanengesang* (*Swan Song*)
- “Erlkönig” (“The Elf King”)

John Philip Sousa, “The Stars and Stripes Forever”

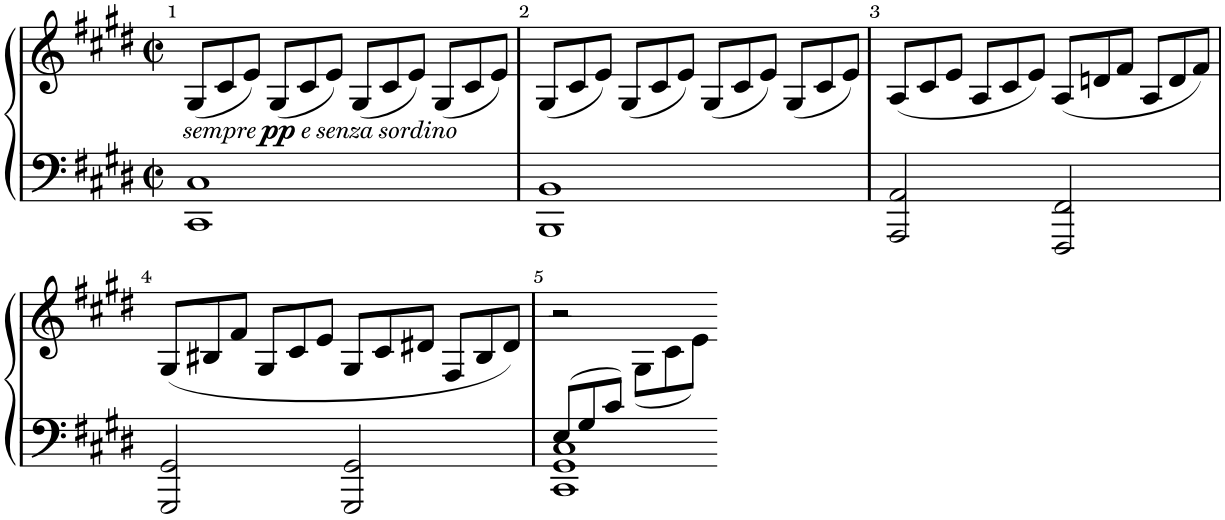
Chromatic Predominant Chords

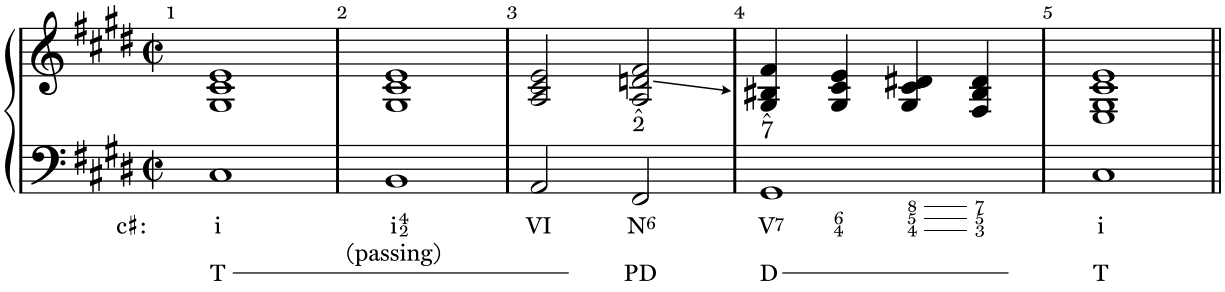
Among the mixture variants discussed in Chapter 26 was the replacement of $\hat{6}$ with $\flat\hat{6}$ in major keys. This substitution creates a new tendency tone, one with a strong pull to resolve down by half step: $\flat\hat{6}$–$\hat{5}$. In this chapter, we explore two new harmonies that share this $\flat\hat{6}$–$\hat{5}$ voice-leading. They are usually found in minor keys (where $\flat\hat{6}$ is the "normal" sixth scale degree) or in major-key passages that include elements of mixture. These harmonies—the Neapolitan sixth and a family of chords called augmented sixths—characteristically share the same position in the basic phrase: as chromatic predominant chords that intensify motion to V.

The Neapolitan Sixth

Listen to the serene first movement of Beethoven's *Moonlight* Sonata. Follow Example 27.1a as you listen, watching for accidentals that signal chromaticism.

EXAMPLE 27.1: Beethoven, *Moonlight* Sonata, mvt. 1

(a) Mm. 1–5

(b) Mm. 1–5 in block chords



We can easily recognize the accidental on $\hat{7}$ in measure 4, creating the leading tone, but in measure 3 there is an unexpected accidental: D♮, the lowered supertonic. This pitch supports a major-quality triad (D♮-F♯-A), which appears in first inversion—a Neapolitan sixth chord, taking the place of the diatonic iv chord (F♯-A-C♯) or ii°6 chord (F♯-A-D♯).

KEY CONCEPT A **Neapolitan sixth** is a chromatic predominant chord that includes ♭$\hat{2}$, $\hat{4}$, and ♭$\hat{6}$; it appears in minor keys, and in major keys with mixture. The Neapolitan substitutes for ii°6 or ii6 in the basic phrase, and like those chords usually appears in first inversion, though with a major quality: ♭II6.

In analysis, this chromatic harmony may also be labeled N6 in place of a Roman numeral (as in part b). (Another possible name for these chords is Phrygian II, after the distinctive half-step motion ♭$\hat{2}$ to $\hat{1}$ of that mode.) As with other mixture chords, use a flat to designate the lowered second scale degree, even in sharp key (as in the Beethoven example), where the actual accidental is a ♮. (The D♯ in m. 4 is a courtesy accidental, reminding performers that the D♮ has been canceled by the bar line.)

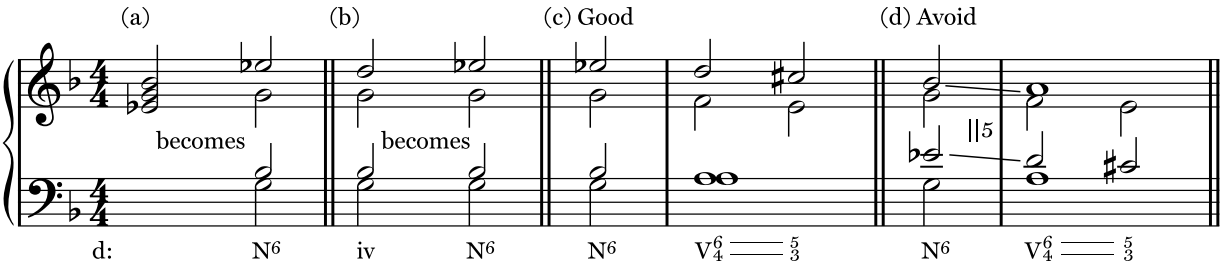
Spelling and Voicing

KEY CONCEPT To spell Neapolitan sixths (Example 27.2):

- find ♭$\hat{2}$, spell a major triad from this root, then place it in first inversion (part a); or
- spell iv, then raise its fifth a minor second, to ♭$\hat{2}$ (part b). In major keys, remember to begin with the minor iv, from mixture, or alter $\hat{6}$ to ♭$\hat{6}$.

- Doubling $\hat{4}$ (usually the bass) is the norm in four-part writing.
- If the chord after the N6 is a cadential $\frac{6}{4}$, place $\flat\hat{2}$ or $\hat{4}$ in the highest voice (part c); if $\flat\hat{6}$–$\hat{5}$ is placed above $\flat\hat{2}$–$\hat{1}$, this voicing invariably results in parallel fifths (part d).

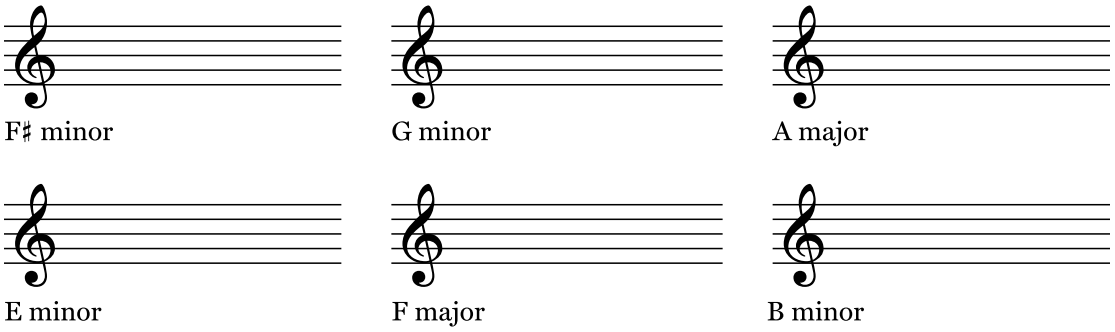
EXAMPLE 27.2: Spelling N6



Try it #1

Spell N6 chords ($\hat{4}$–$\flat\hat{6}$–$\flat\hat{2}$) in the following keys. Provide the minor or major key signature, then write the chord with appropriate accidentals.

Show answers

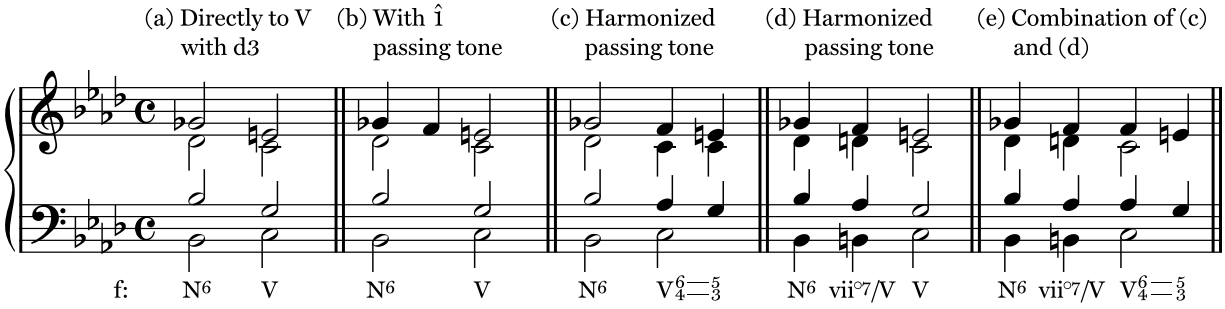


Voice-Leading and Resolution

The progression in Example 27.1b clearly follows the basic

phrase model, T–PD–D–T, with the Neapolitan chord filling a predominant function and moving directly to V. Follow the alto voice of the reduction to see how ♭2̂ moves directly to the leading tone in measures 3–4, spanning the interval of a diminished third (D♮–B♯). Although augmented or diminished melodic intervals are generally avoided in common-practice voice-leading, composers permit the diminished third in the context of a N6 resolution (see Example 27.3a). Some composers smooth the motion from ♭2̂ to 7̂ by inserting a passing tone to soften the effect: ♭2̂–1̂–7̂ (part b). If the passing tone is harmonized, the prevailing choice is a cadential $\frac{6}{4}$ chord (parts c and e) or vii°7/V (parts d and e).

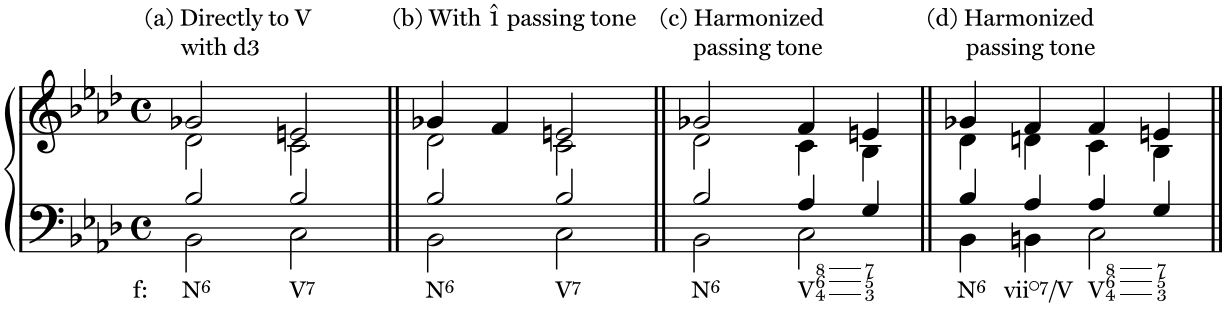
EXAMPLE 27.3: Resolutions of the Neapolitan sixth



It is also possible to resolve the N6 to a V7. The voice-leading (Example 27.4) is quite similar; compare with Example 27.3:

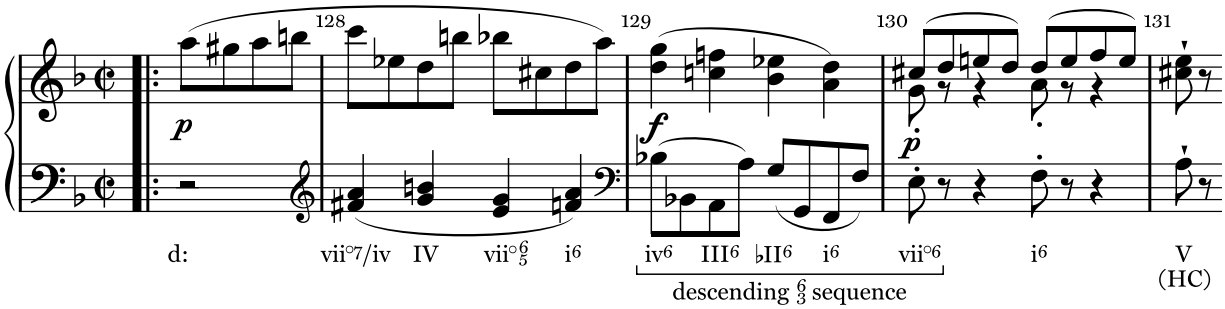
- In parts (a) and (b), G3 in the dominant harmony is replaced with B♭3, holding the common tone in the tenor for an incomplete V7.
- In parts (c) and (d)—with a cadential $\frac{6}{4}$—the seventh of the dominant harmony enters on the last beat in the alto (B♭3) when the $\frac{6}{4}$ resolves, adding an 8–7 to the figures.

EXAMPLE 27.4: Resolutions of the Neapolitan sixth to V7


(a) Directly to V with d3
(b) With î passing tone
(c) Harmonized passing tone
(d) Harmonized passing tone
f: N6 V7
N6 V7
N6 V8/6 4/3 7/5 3
N6 vii°7/V V8/6 4/3 7/5 3

Now listen to a minor-key passage from a set of Mozart variations (Example 27.5); the excerpt comes from the harmonically unstable beginning of the second half of this binary form. In measures 129–130, a descending $\frac{6}{3}$ sequence passes from the subdominant to the leading-tone harmony. Instead of a ii°6, Mozart has used a Neapolitan sixth (E♭-G-B♭, labeled ♭II6 to show its place in the $\frac{6}{3}$ sequence) as a colorful variant.

EXAMPLE 27.5: Mozart, Piano Sonata in D Major, mvt. 3, mm. 127–131



Look back at the examples by Beethoven and Mozart to see how these composers handle the issues of progression, doubling, and resolution.

Beethoven (Example 27.1):

- In measure 3, the Neapolitan is preceded by a VI (a tonic expansion).
- The third (bass) of the Neapolitan chord ($\hat{4}$) is doubled.
- $\flat\hat{2}$ moves down to $\hat{7}$ in the dominant harmony.

Mozart (Example 27.5):

- In measure 129, the Neapolitan is preceded by a string of $\frac{6}{3}$ chords.
- $\hat{4}$ is doubled in the left hand in octaves, but there are only three voice-leading strands (this is an octave duplication of the bass note, a sonority doubling).
- $\flat\hat{2}$ moves down to $\hat{1}$ within the sequence and then to $\hat{7}$ on the downbeat of the next measure.

SUMMARY

The N^6 (or $\flat II^6$) typically appears as a predominant near a cadence in minor keys, or in major-key passages with mixture chords. It is preceded by any harmony that would normally lead to a PD harmony, such as

- another PD harmony;
- a tonic harmony, tonic substitute, or tonic expansion; or
- a string of parallel $\frac{6}{3}$ chords.

It resolves

- directly to V or V^7,
- to V or V^7 through a cadential $\frac{6}{4}$, or
- to V through a $vii^{\circ 7}/V$ (with or without a cadential $\frac{6}{4}$).

Both tendency tones normally resolve down: $\flat\hat{6}$ to $\hat{5}$ and $\flat\hat{2}$ (usually through a passing tone $\hat{1}$) to $\hat{7}$. Avoid

moving from ♭$\hat{2}$ to ♮$\hat{2}$; this is only permitted in an inner voice, not in the soprano.

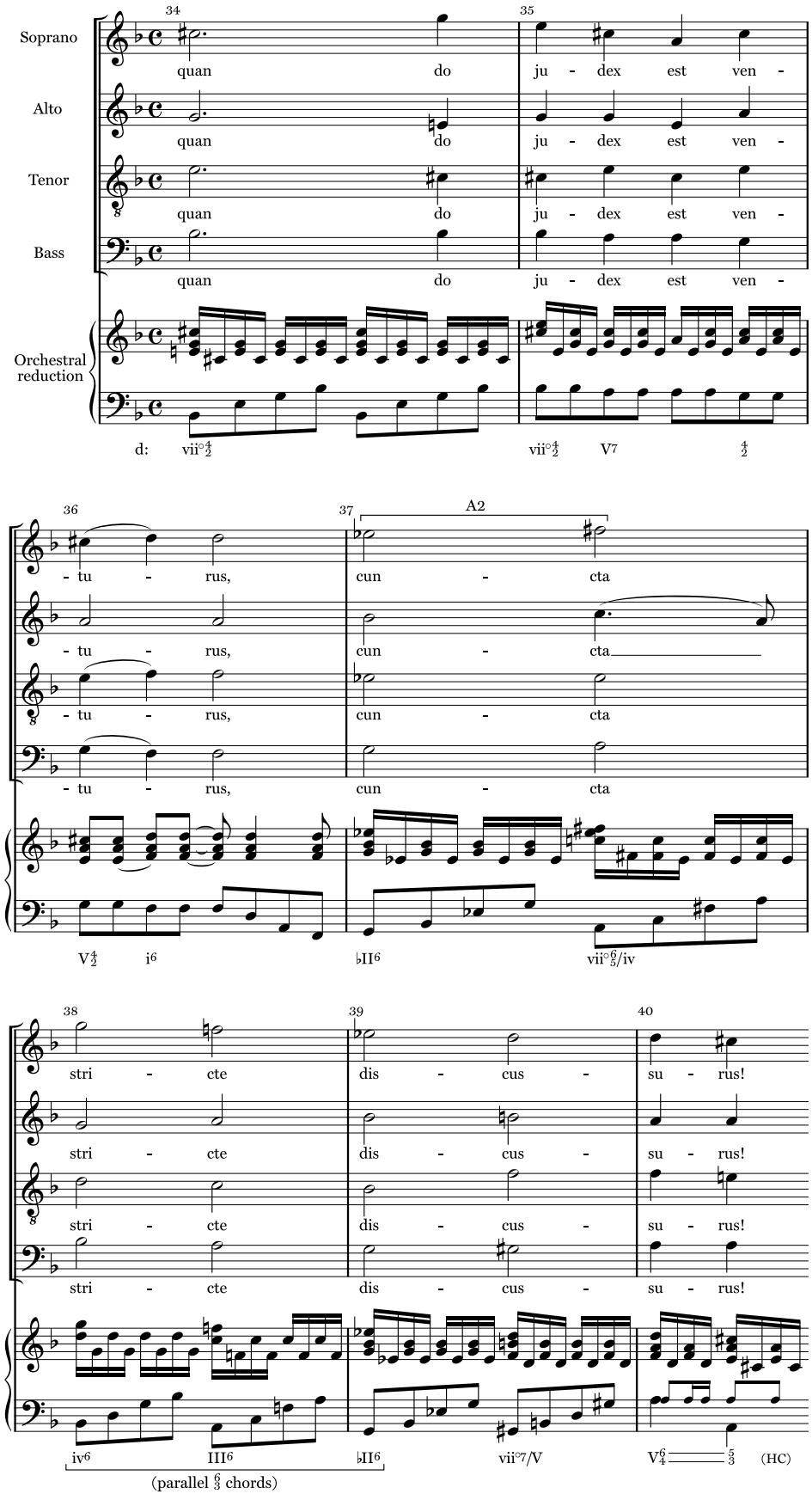
Some composers will diverge from these guidelines. For an example, listen to the dramatic excerpt from Mozart's *Requiem* shown in Example 27.6, or sing it with your class. The text, taken from the Requiem Mass (Mass for the Dead), depicts a wrathful Judgment Day when, according to Christian texts, sinners will be punished and the world destroyed. Mozart represents the day of wrath with agitated string arpeggiation, full chorus, a minor key, diminished seventh sonorities, and colorful Neapolitan harmonies–with ♭$\hat{2}$ prominently voiced in the soprano line (mm. 37 and 39).

In this passage, Mozart prolongs the predominant area in measures 37–39 by means of parallel $\frac{6}{3}$ chords that extend from one Neapolitan chord to the next. The ♭$\hat{2}$ (E♭) in measure 39 resolves normally, down through a harmonized passing tone $\hat{1}$ to $\hat{7}$ in the dominant harmony, but because of the doubled ♭$\hat{6}$ (B♭) in the choral parts, Mozart must resolve one of them irregularly in order to avoid parallel octaves. His choice is to have the tenor leap up a perfect fifth (on "dis-cus").

The first Neapolitan of this passage (m. 37) shows another unconventional doubling, with ♭$\hat{2}$ in the soprano and tenor. This results in unusual voice-leading in the soprano, which moves upward by an augmented second (E♭ to F♯). Perhaps Mozart felt that the A2 in measure 37 and the tenor leap to a high F4 in measure 39 would contribute to the text's overall sense of despair and frenzy. In your own writing, conform to the guidelines for doubling and voice-leading unless you have a good reason for doing otherwise.

KEY CONCEPT When writing the N^6 chord, double $\hat{4}$, the bass note, when the chord appears in its characteristic first inversion. Other doublings are found occasionally, but they result

in leaps (as in the Mozart example, m. 39) or may cause parallels or other voice-leading issues. If ♭2̂ is doubled, it moves to ♮2̂ in an inner voice only, not in the soprano.

EXAMPLE 27.6: Mozart, Dies irae, from *Requiem*, mm. 34–40

34
35
Soprano
Alto
Tenor
Bass
Orchestral reduction
quan do ju - dex est ven -
d: vii°4/2 vii°4/2 V7 4/2
36
37
A2
- tu - rus, cun - cta
V4/2 i6 ♭II6 vii°6/5/iv
38
39
40
stri - cte dis - cus - su - rus!
iv6 III6 ♭II6 vii°7/V V6/4 5/3 (HC)
(parallel 6/3 chords)

Translation: When the judge comes to adjudicate all things strictly.

Intonation and Performance

When performing passages with Neapolitan sixth chords, keep the following issues in mind. Since ♭$\hat{2}$ lies outside the diatonic major and minor scales, and since the Neapolitan relies on its major quality for its identity, correct tuning should be a primary concern. If you sing the soprano line of the Mozart example with solfège syllables, you will need to inflect three of them: *ti* for $\hat{7}$, *ra* for ♭$\hat{2}$ (*re* lowered a half step), and *mi* for $\hat{3}$.

Try it #2

Write the correct solfège syllables or scale-degree numbers for the soprano line of Example 27.5 in the blanks below.

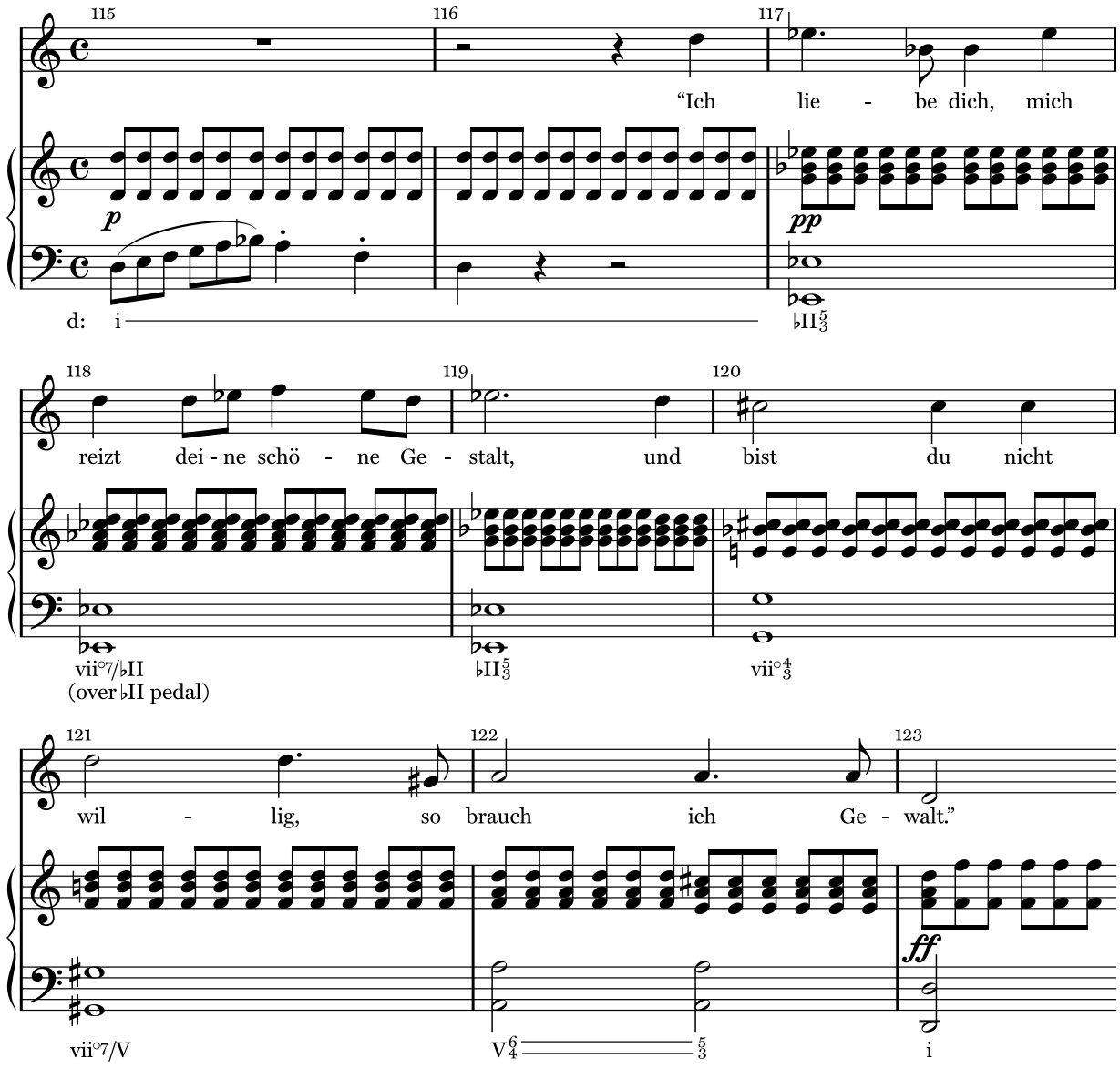
Show answers

m. 34	m. 35	m. 36	m. 37	m. 38	m. 39	m. 40
ti *fa*	___ ___ ___ ___	___ ___ ___	___ ___	___ ___	___ ___	___ ___
$\hat{7}$ $\hat{4}$	___ ___ ___ ___	___ ___ ___	___ ___	___ ___	___ ___	___ ___

The soprano's diminished fifth $\hat{7}$–$\hat{4}$ (*ti*–*fa*) in measure 34 of Example 27.6 can be somewhat difficult to tune, but probably more challenging is the augmented second in measure 37, ♭$\hat{2}$–$\hat{3}$ (*ra*–*mi*). It is sometimes helpful to exaggerate the altered ♭$\hat{2}$ (*ra*) very low, and think $\hat{3}$ (*mi*) very high. You might even employ a darker tone color for the lowered pitches and brighter for the raised pitches. Such exaggerations hold true especially in ensemble singing and playing, where this line is crucial in tuning the chord qualities.

Tonicizing the Neapolitan

The Neapolitan harmony can be tonicized, either by its own secondary dominant or by an extended progression in the ♭II key area; the secondary dominant is diatonic in minor keys (VI) or available by mixture in major keys (♭VI). Listen to the passage from Schubert's "Erlkönig" given in Example 27.7, and follow the Roman numeral analysis beneath the score.

EXAMPLE 27.7: Schubert, "Erlkönig," mm. 115–123

Translation (sung by the Elf King): "I love you, I am tempted by your beautiful form; and if you are not willing, I will use force."

Measures 117–119 tonicize ♭II, with this harmonic area prolonged by the secondary vii°7. This Neapolitan, though, appears in root position—a common occurrence when the Neapolitan is tonicized. Consider how the harmonies in this passage correspond with the meaning of the text. The Elf King is a sinister creature who tries to entice a young boy to his death, while the boy and his father ride on horseback through a

dark forest. Schubert's tonicization of the Neapolitan coincides with the otherworldly character and falsely affectionate words of the Elf King, while the return to tonic signals a return to the reality of the situation: if the boy will not go willingly, the Elf King will take him by force.

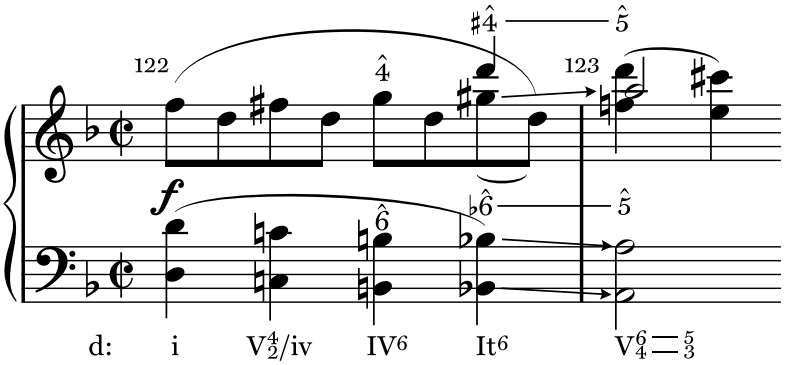
KEY CONCEPT When you tonicize ♭II:

1. Think temporarily in the ♭II key area in order to remember the correct accidentals (♭II is usually in root position when tonicized, and ♭$\hat{2}$ may be doubled).
2. Double-check that secondary dominant or leading-tone chords have the correct quality (V^7 or $vii^{\circ 7}$).
3. Follow the regular guidelines for part-writing and dissonance resolution.

Augmented-Sixth Chords

Listen to Variation VII from Mozart's sonata, and pay special attention to the cadence in measures 122–123 (Example 27.8).

EXAMPLE 27.8: Mozart, Piano Sonata in D Major, mvt. 3, mm. 122–123



With the predominant IV^{6} chord on the third beat of measure 122, we expect motion from IV^{6} to V—a typical half cadence. At the last moment, though, Mozart raises $\hat{4}$ to $\sharp\hat{4}$ (G to G♯), resolving in the next measure to $\hat{5}$ (A). This chromatic alteration ($\sharp\hat{4}$–$\hat{5}$) should be familiar from your study of the V^{7}/V and vii$^{\circ 7}$/V chords. He also lowers $\hat{6}$ to $\flat\hat{6}$ (B♮ to B♭)—a familiar operation from modal mixture—which then moves down by half step to $\hat{5}$.

These chromatic alterations are what define the predominant family of chords called **augmented-sixth chords**, so called because the harmonic interval from $\flat\hat{6}$ up to $\sharp\hat{4}$ is an augmented sixth. The particular chord on beat 4 of the Mozart example—$\flat\hat{6}$, $\sharp\hat{4}$, and $\hat{1}$ (*le*, *fi*, and *do*), resolving to V by half-step motion outward ($\sharp\hat{4}$–$\hat{5}$ in an upper voice and $\flat\hat{6}$–$\hat{5}$ in the bass)—is called an **Italian augmented-sixth chord**, labeled It^{6}.

KEY CONCEPT To identify an A6 chord quickly, look

for ♭$\hat{6}$–$\hat{5}$ in the bass, then confirm by checking for ♯$\hat{4}$–$\hat{5}$ in an upper voice.

Try it #3

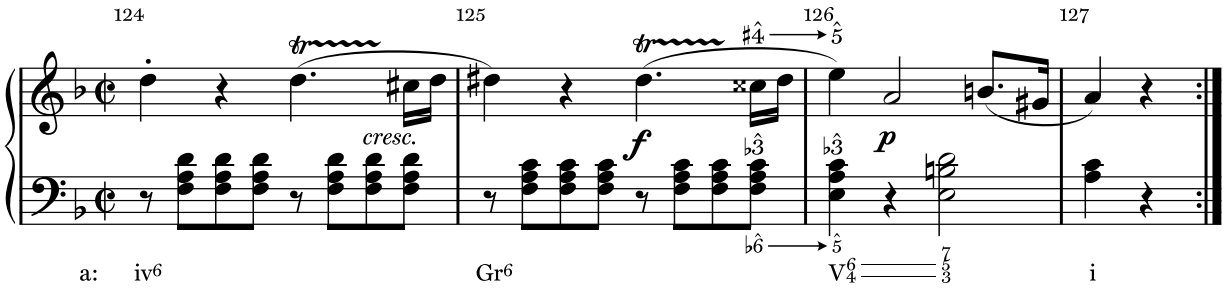
Identify the characteristic tendency tones of the augmented-sixth sonorities in the following keys.

Show answers

KEY	♭$\hat{6}$	♯$\hat{4}$	KEY	♭$\hat{6}$	♯$\hat{4}$
A minor	F	D♯	E major		
C♯ minor			B minor		
F major			G♯ minor		

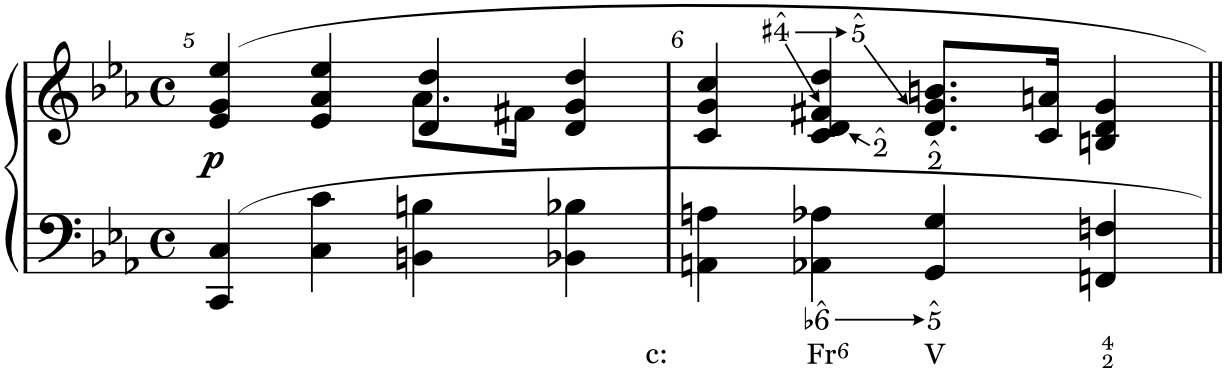
In measures 124–127 of the Mozart sonata (Example 27.9), the key has changed from D minor to A minor (the minor dominant). The chord in measure 125 contains ♭$\hat{6}$, $\hat{1}$, and ♯$\hat{4}$ (F, A, and D♯) of the Italian augmented sixth plus ♭$\hat{3}$ (C). This sonority is known as the **German augmented-sixth chord**, labeled Gr^{6}. As expected, D♯5 resolves up by half step to E5 in measure 126, and F3 moves down by half step to E3. As in this example, the Gr^{6} usually resolves to an embellished V^{6}_{4}-$^{5}_{3}$ rather than directly to V: the left-hand triad (F-A-C) would produce audible parallel fifths if it were to move directly to V (E-G♯-B). Scale degree ♭$\hat{3}$ (C) serves as a common tone between the two.

EXAMPLE 27.9: Mozart, Piano Sonata in D Major, mvt. 3, mm. 124–127



Sometimes $\hat{2}$ (*re*) is added to the $\flat\hat{6}$, $\hat{1}$, and $\sharp\hat{4}$ of the Italian sixth, making the sonority known as the **French augmented-sixth chord** (Fr^6). Look, for example, at the second chord in measure 6 below.

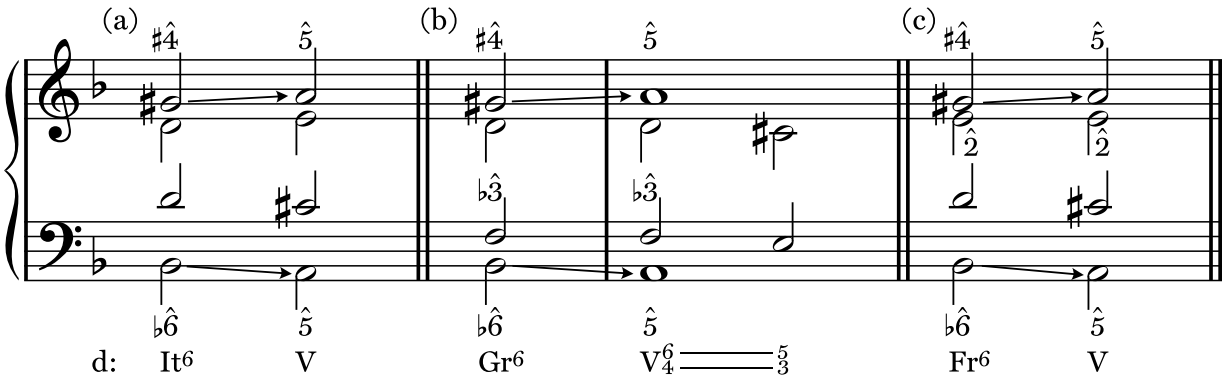
EXAMPLE 27.10: Chopin, Prelude in C Minor, mm. 5–6



Like the A6 in Example 27.7, this Fr^6 is approached by a descending chromatic bass line, and the chord immediately preceding it is a tonic triad (with chromatic passing tone in the bass). The Fr^6 resolves as expected to V, with F♯ in the alto moving up to G, A♭ in the bass resolving down to G, and $\hat{2}$ (D) serving as a common tone.

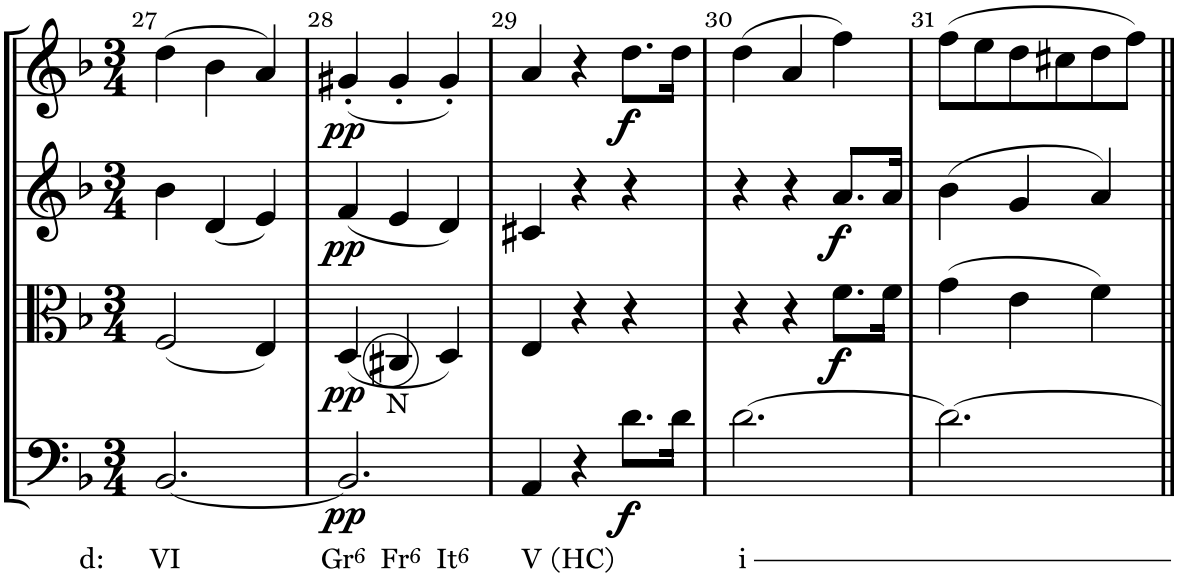
The three types of augmented-sixth chords are summarized in Example 27.11. All three share $\flat\hat{6}$–$\hat{5}$ in the bass and $\sharp\hat{4}$–$\hat{5}$ in an upper voice when they resolve to V. All chords include $\hat{1}$; in addition, the Gr^6 contains $\flat\hat{3}$ (part b) and the Fr^6 $\hat{2}$ (part c).

EXAMPLE 27.11: Augmented-sixth chords



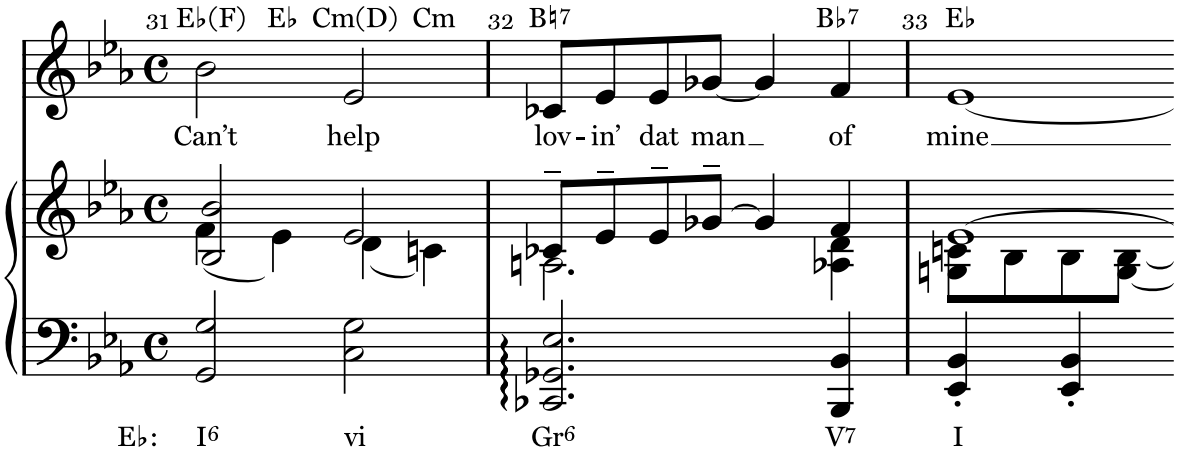
Occasionally, composers will write all three types in quick succession to intensify motion to the dominant at a cadence—usually in the order Italian, French, German. Example 27.12, though, shows the opposite order: here, the "world tour" of augmented-sixth chords heralds the return of the opening theme (m. 29) in a sectional rounded binary form.

EXAMPLE 27.12: Mozart, String Quartet in D Minor, mvt. 3, mm. 27– 31



In Classical style, these chords are usually positioned to emphasize the arrival of a particularly significant dominant harmony. Their dramatic sound is more freely employed in Romantic-era compositions, but even then the sound is saved for dramatic points. The A6 sonority is not often heard in pre-Classical-era works or in popular music, though there are some examples. Look at the approach to the cadence in measure 33 of Example 27.13, an excerpt from "Can't Help Lovin' Dat Man." Measure 32 features the now-familiar tendency tones of the Gr^{6} : C♭ (♭$\hat{6}$) in the bass, resolving down to B♭ ($\hat{5}$), and A♮ (♯$\hat{4}$) in the alto. In this freer style, the ♯$\hat{4}$ does not resolve up to $\hat{5}$, but the augmented-sixth sound is still a distinctive intensification of the motion to V. Interestingly, the chord symbol given above the staff is B♮^{7}, an enharmonic respelling of the A6 chord.

EXAMPLE 27.13: Kern and Hammerstein, "Can't Help Lovin' Dat Man," mm. 31–33

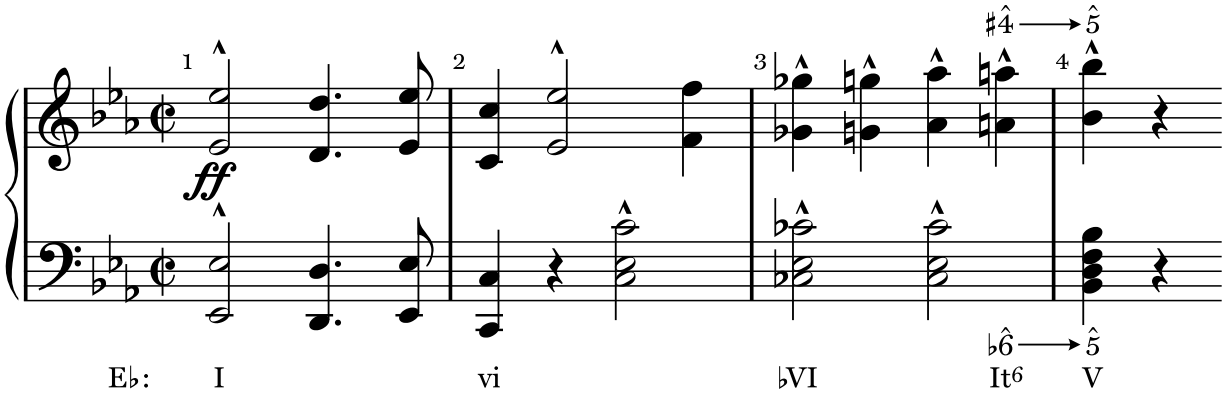


Voice-Leading, Spelling, and Resolution

As we have seen, all varieties of augmented-sixth chords share the same pattern of voice-leading to V: ♯$\hat{4}$ up to $\hat{5}$ in an upper voice, and ♭$\hat{6}$ down to $\hat{5}$ in the bass (see Example 27.10). In addition, these chords include $\hat{1}$, which usually resolves down to the leading tone. Think of the two tendency tones of the A6 as derived from two ideas we have already studied: ♯$\hat{4}$ up to $\hat{5}$ captures the temporary leading tone of secondary dominants to V, while ♭$\hat{6}$ down to $\hat{5}$ derives from mixture. Because of these two chromatic elements, A6 chords have the strongest tendency of any predominant harmony to move to V; they usually go directly to V (in the case of Gr^6, to V$^{6}_{4}$-$^{5}_{3}$), without intervening chords.

For the bass-line resolution pattern (♭$\hat{6}$ to $\hat{5}$) to work in major keys, $\hat{6}$ must be lowered to ♭$\hat{6}$. Two accidentals are therefore necessary in major keys, as opposed to only one (♯$\hat{4}$) in minor keys. One familiar example of an augmented sixth in a major key is the introduction to "The Stars and Stripes Forever." Listen to Example 27.14 to hear how Sousa prepares for the ♯$\hat{4}$ and ♭$\hat{6}$.

EXAMPLE 27.14: Sousa, "The Stars and Stripes Forever," mm. 1–4



First Sousa expands the tonic area with a vi chord, then introduces an element of mixture by transforming the submediant harmony to ♭VI; this prepares the bass motion of the augmented sixth. In the soprano, he introduces a chromatic ascent that naturally leads through ♯4̂ to 5̂.

SUMMARY

Like the N6, augmented-sixth chords usually appear in minor keys, or in major-key passages with mixture chords.

- All share ♭6̂, 1̂, and ♯4̂, and resolve to V.
- All share the same voice-leading pattern: ♯4̂ up to 5̂ in an upper voice, and ♭6̂ down to 5̂ in the bass.
- Consider the ♯4̂–5̂/♭6̂–5̂ outer-voice pattern as the scaffold upon which to build any of the three types: Italian, French, or German.

Italian, French, and German Augmented Sixths

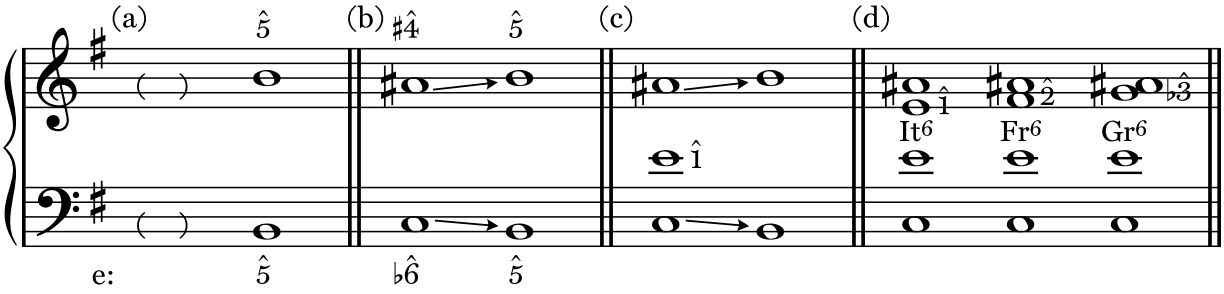
KEY CONCEPT To write an A6 progression to V in four voices (Example 27.15):

1. In the resolution chord, place 5̂ in the bass and an upper

voice (the soprano is a characteristic voicing but not required), leaving an empty space before it for the augmented sixth (part a).

2. In the empty space, write the two tendency tones leading to $\hat{5}$: $\flat\hat{6}$–$\hat{5}$ in the bass and $\sharp\hat{4}$–$\hat{5}$ in the upper voice (part b). In a major key, add the correct accidental to lower $\hat{6}$ to $\flat\hat{6}$.
3. Add $\hat{1}$ to one of the inner voices (part c).
4. Add a fourth note, following these guidelines (part d):
   - For It^{6}, double $\hat{1}$.
   - For Fr^{6}, add $\hat{2}$ (an augmented fourth above the bass note).
   - For Gr^{6}, add $\flat\hat{3}$ (a perfect fifth above the bass note). In major keys, add an accidental to lower $\hat{3}$ to $\flat\hat{3}$.

EXAMPLE 27.15: Spelling augmented-sixth chords



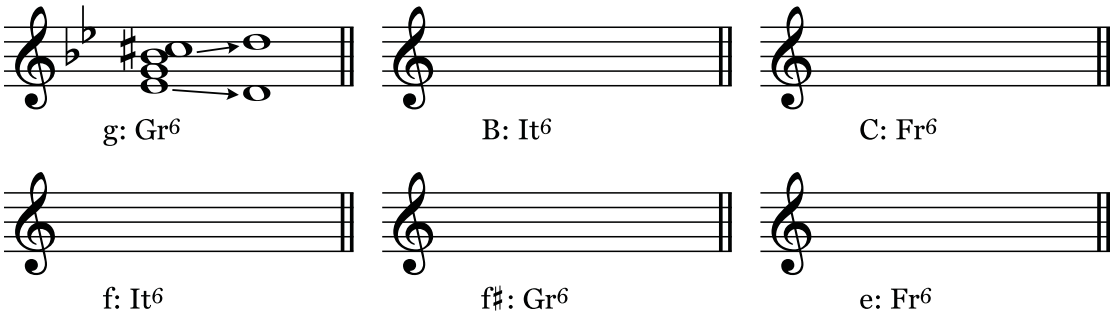
One way to remember the augmented-sixth chord abbreviations is to think of the geography of these countries in relation to the scale degrees added: moving from south to north, you have Italy ($\hat{1}$), France ($\hat{2}$), and Germany ($\flat\hat{3}$). Another way is to memorize the figured bass associated with each chord: It^{6}, Fr$^{4}_{3}$, and Gr$^{6}_{5}$. Figures help remind you that the Fr$^{4}_{3}$, for example, has a third ($\hat{1}$) and a fourth ($\hat{2}$) above the bass, in addition to the augmented sixth, and that the Gr$^{6}_{5}$ has a perfect

fifth. Keep in mind that these numbers represent figured bass, not inversion symbols. Augmented-sixth chords function as voice-leading chords, not as inversions of an "altered chord." Don't attempt to stack the thirds to find a "root."

Try it #4

Spell the specified A6 chords in three or four voices in the keys indicated. Place ♯$\hat{4}$ in the highest voice and ♭$\hat{6}$ in the lowest. If it helps to write the octave $\hat{5}$ after the augmented sixth, as shown below, do so.

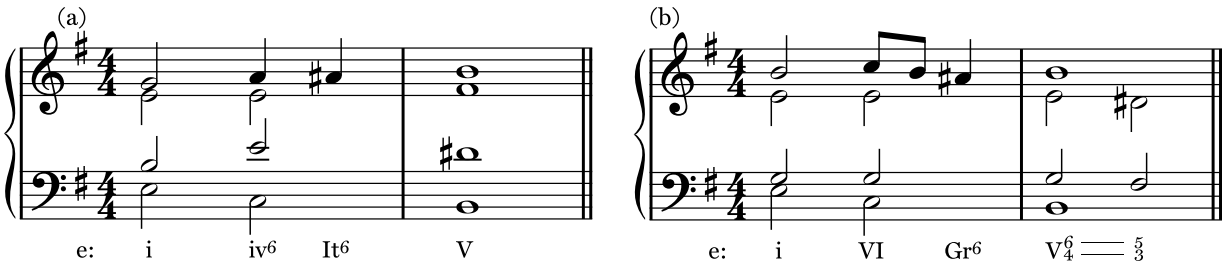
Show answers



Approaches to Augmented-Sixth Chords

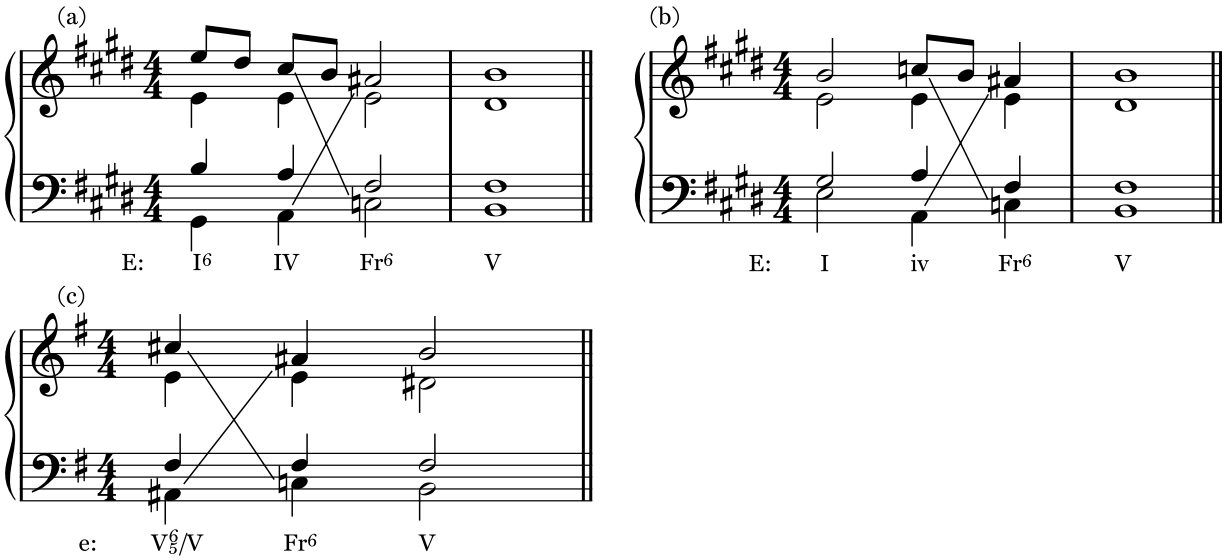
Augmented-sixth chords are generally preceded by harmonies from the tonic or predominant area of the basic phrase, as in Example 27.16. A common approach is one that features ♭$\hat{6}$—either iv^6 or VI—accompanied by the alteration of 4 to ♯$\hat{4}$. The iv^6–V motion should be familiar from the Phrygian cadence.

EXAMPLE 27.16: Predominant approaches to augmented-sixth chords



Another elegant way to introduce these pitches is by means of a chromatic voice exchange, where ♭6̂ and 4̂ exchange with ♭6̂ and ♯4̂ (Example 27.17a). This voice exchange also works if one of the chromatic elements is present in the first chord through mode mixture (part b) or the use of a secondary dominant (part c).

EXAMPLE 27.17: Predominant approaches with chromatic voice exchange



Aural Identification and Performance

Thinking of scale degrees can help you identify A6 chords aurally. Probably the easiest to hear is the Fr6, because of its dissonances: in addition to the augmented sixth between ♭6̂ and ♯4̂ and the augmented fourth (or diminished fifth) between 1̂ and

♯$\hat{4}$, you can also listen for the augmented fourth between ♭$\hat{6}$ and $\hat{2}$. Another way to identify the Fr^{6} is from the whole step (or minor seventh) between $\hat{1}$ and $\hat{2}$.

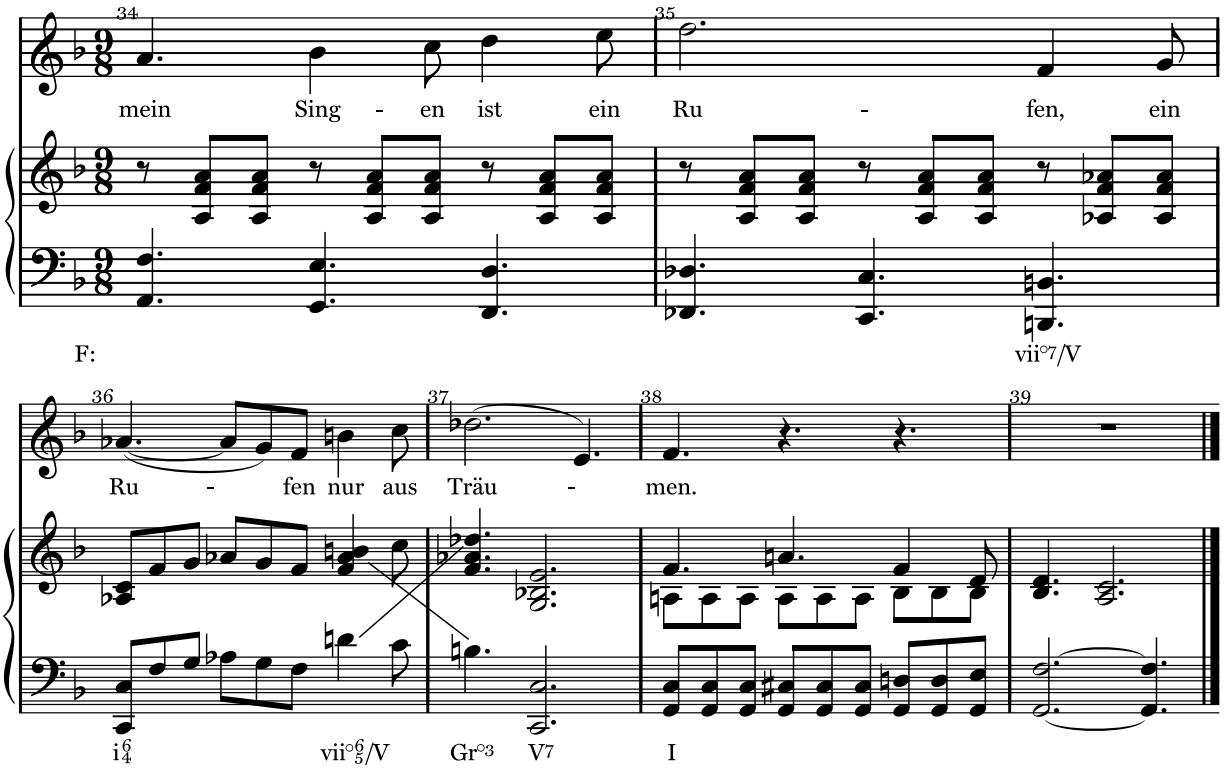
To distinguish the It^{6} and Gr^{6}, listen carefully for ♭$\hat{3}$ (the perfect fifth above the bass), which indicates the Gr^{6}. The Gr^{6} may also be recognized by its similarity in sound to a dominant seventh chord (with which it is enharmonic). Still, although the sound is similar, the characteristic pattern of resolution for the ♯$\hat{4}$ and ♭$\hat{6}$ in the augmented sixth is quite different from the dominant seventh resolution, making their functions easy to distinguish.

When you perform an augmented sixth, try to make the resolution of the tendency tones clear by bringing out the voices that carry the ♯$\hat{4}$–$\hat{5}$ (*fi*–*sol*) and ♭$\hat{6}$–$\hat{5}$(*le*–*sol*) voice-leading. Aim high when tuning ♯$\hat{4}$ and low when tuning the ♭$\hat{6}$ on a non-keyboard instrument, so that the interval is absolutely clear.

Less Common Spellings and Voicings

Occasionally you might see an augmented-sixth chord in a less characteristic voicing—with ♭$\hat{6}$ above ♯$\hat{4}$, creating a diminished third rather than an augmented sixth. Listen, for example, to the final cadence of Hensel's "Nachtwanderer" (Example 27.18).

EXAMPLE 27.18: Hensel, "Nachtwanderer," mm. 34–39



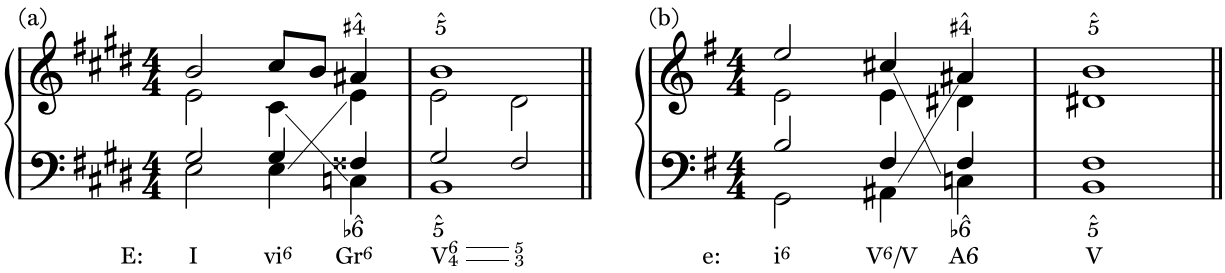
Translation: My singing is a cry, a cry only from dreams.

Since the chord in question (in m. 37) appears on “Träumen” (dreams), its dissonant ambiguity may be an element of text painting. The analyst who tries to stack this chord in thirds gets B♮-D♭-F-A♭—not a familiar type of seventh chord, given its diminished third from B♮ to D♭. Instead, recognize the familiar elements of the augmented sixth in this F major context: B♮ is ♯$\hat{4}$, and D♭ is ♭$\hat{6}$. Since the chord also includes $\hat{1}$ and ♭$\hat{3}$, it is called a **German diminished-third chord** (Gr$^{\circ 3}$), normally approached by a chromatic voice exchange (as marked in the example). In measure 35, Hensel elegantly prepares all the chromatic elements of the diminished-third chord by introducing D♭ as a chromatic passing tone in the bass, and B♮ and A♭ as the root and seventh of a vii$^{\circ 7}$/V; she then maintains ♭$\hat{3}$ as an element of mixture on the word “Rufen” (cry) in measure 36.

For voice-leading purposes, composers may sometimes spell

the Gr^{6} in major keys with a doubly augmented fourth above the bass, rather than a perfect fifth (that is, with ♯$\hat{2}$ instead of ♭$\hat{3}$), as in Example 27.19a. In analysis, it is easier simply to call this chord a Gr^{6} rather than create a new name and symbol. Another possible chord is ♭$\hat{6}$–$\hat{7}$–$\hat{2}$–♯$\hat{4}$—the so-called half-diminished augmented-sixth chord, where $\hat{7}$ substitutes for $\hat{1}$ of a Fr^{6} (part b). In these and related chords, the augmented sixth usually resolves as expected, and the other voices move by step to members of the next chord.

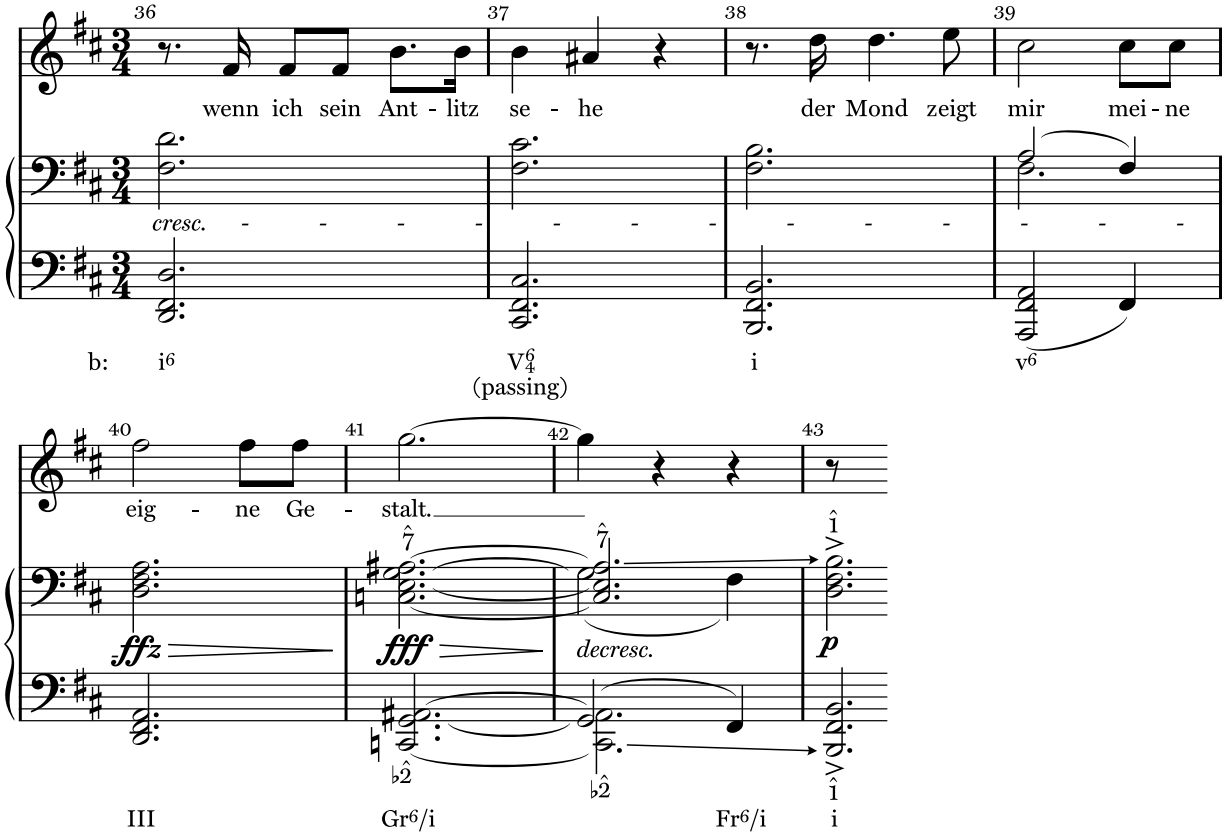
EXAMPLE 27.19: Other types of augmented-sixth chords



Secondary Augmented-Sixth Chords

For special effect, composers may apply the voice-leading principles of the augmented sixth to $\hat{1}$ and the tonic triad, lending the A6 a kind of secondary function. Label this type of chord as though it were a secondary dominant: for example, Gr^{6}/i (German sixth of i). Here, the characteristic voice-leading is ♭$\hat{2}$–$\hat{1}$ in the bass and $\hat{7}$–$\hat{1}$ in an upper voice. The augmented-sixth interval is now from ♭$\hat{2}$–$\hat{7}$ rather than ♭$\hat{6}$ to ♯$\hat{4}$. All varieties of the "secondary" A6 (It, Fr, Gr) include $\hat{4}$; the French adds $\hat{5}$, and the German adds ♭$\hat{6}$. Look at Example 27.20, from Schubert's song "Der Doppelgänger," to see how this voice-leading chord operates (m. 41).

EXAMPLE 27.20: Schubert, "Der Doppelgänger," mm. 36–43



Translation: [I shudder] when I see his face—the moon shows me my own form.

SUMMARY

The Neapolitan (♭II6) and the family of augmented-sixth chords share a number of important characteristics:

- They typically appear in minor keys, or in major-key passages with mixture.
- They share ♭6̂ as an important scale-degree component.
- They are predominant chords that intensify motion to V through chromaticism.

- In addition to ♭$\hat{6}$, N^6 includes $\hat{4}$ (usually in the bass) and ♭$\hat{2}$; ♭$\hat{2}$ resolves down to $\hat{7}$ of the dominant harmony, often via a passing $\hat{1}$.
- In addition to ♭$\hat{6}$ (usually in the bass), all A6 chords feature ♯$\hat{4}$ and $\hat{1}$; ♭$\hat{6}$ and ♯$\hat{4}$ resolve by contrary motion to $\hat{5}$.

Did You Know?

The geographical names for augmented-sixth chords first appear in an 1806 treatise by John Callcott called *A Musical Grammar* (London). The chords were named according to Callcott's perception of the national character of the Italians ("elegance"), French ("feebleness"), and Germans ("strength"). Most treatises from that time, however, do not refer to these terms when they describe augmented-sixth sonorities. The origin of "Neapolitan" is likewise unclear; some believe it arose from the use of this sonority by eighteenth-century opera composers centered in Naples, but the chord appears in earlier works as well, including some by non-Italian composers.

TERMS YOU SHOULD KNOW

augmented-sixth chord (A6)
diminished-third chord
Fr^6
Gr^6
It^6
Neapolitan sixth (N^6)

QUESTIONS FOR REVIEW

1. Why are the Neapolitan and augmented-sixth chords often found in minor-key pieces or major-key pieces that employ mixture?
2. Where are Neapolitan chords typically found in a phrase? What is their function?
3. In what voicing of N^6 are parallel fifths a possibility, and how do you avoid them?
4. What chords may precede a N^6? What chords usually follow it?
5. Under what conditions might Neapolitan chords appear in root position? What is doubled if the N^6 is in root position?
6. Where are augmented-sixth chords usually found in a phrase? What is their function?
7. Which elements of the augmented-sixth chords are shared with secondary-dominant-function chords to V? In major keys, which elements are shared with mixture chords?
8. Which A6 may lead to parallel fifths, and how are they avoided?

9. What chords may precede an A6? What chords usually follow it?

10. In music for your own instrument, find one N^6 and at least two different types of A6 chords (solo-line instrumentalists will need to examine both melody and accompaniment). How does the chord color the passage in question? How might you play the passage to bring out this unusual chord color?

Know It? Show It!

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28 Vocal Forms

Outline

Three-part vocal forms
- Aria da capo
- Other ternary arias
- Recitatives

Text and song structure
- Strophic form
- Text painting
- Analysis and interpretation

Other vocal forms
- Modified strophic form
- Through-composed form
- French mélodie

Overview

We now consider chromatic harmonies as employed in art song, opera, and oratorio. We examine standard formal designs for solo vocal works, and see how composers use harmony and motivic development to realize their interpretation of the text.

Repertoire

Johann Sebastian Bach, “Schafe können sicher weiden” (“Sheep may safely graze”), from Cantata No. 208

Gabriel Fauré, “Après un rêve” (“After a Dream”)

George Frideric Handel, “Thy rebuke hath broken his heart,” from *Messiah*

Wolfgang Amadeus Mozart

- “Quanto duolmi, Susanna” (“How I grieve, Susanna,” recitative) and “Voi, che sapete” (“You who know,” aria), from *The Marriage of Figaro*

Franz Schubert

- “Erlkönig” (“The Elf King”)
- “Morgengruss” (“Morning Greeting”), from *Die schöne Müllerin* (*The Fair Maid of the Mill*)

Clara Schumann, “Liebst du um Schönheit” (“If You Love for Beauty”)

Robert Schumann, “Im wunderschönen Monat Mai” (“In the Lovely Month of May”), from *Dichterliebe* (*The Poet’s Love*)

Three-Part Vocal Forms

Aria da capo

Most songs divide clearly into sections, usually (though not always) corresponding with the division of the text into verses, or strophes. One common design divides a song into three parts, marked by changes in accompanimental pattern, key, and/or contrasting melody. **Three-part** (or **ternary**) vocal forms are typically arranged **A B A′** or **A A B**. In Baroque arias, ternary design usually takes the form of a da capo aria.

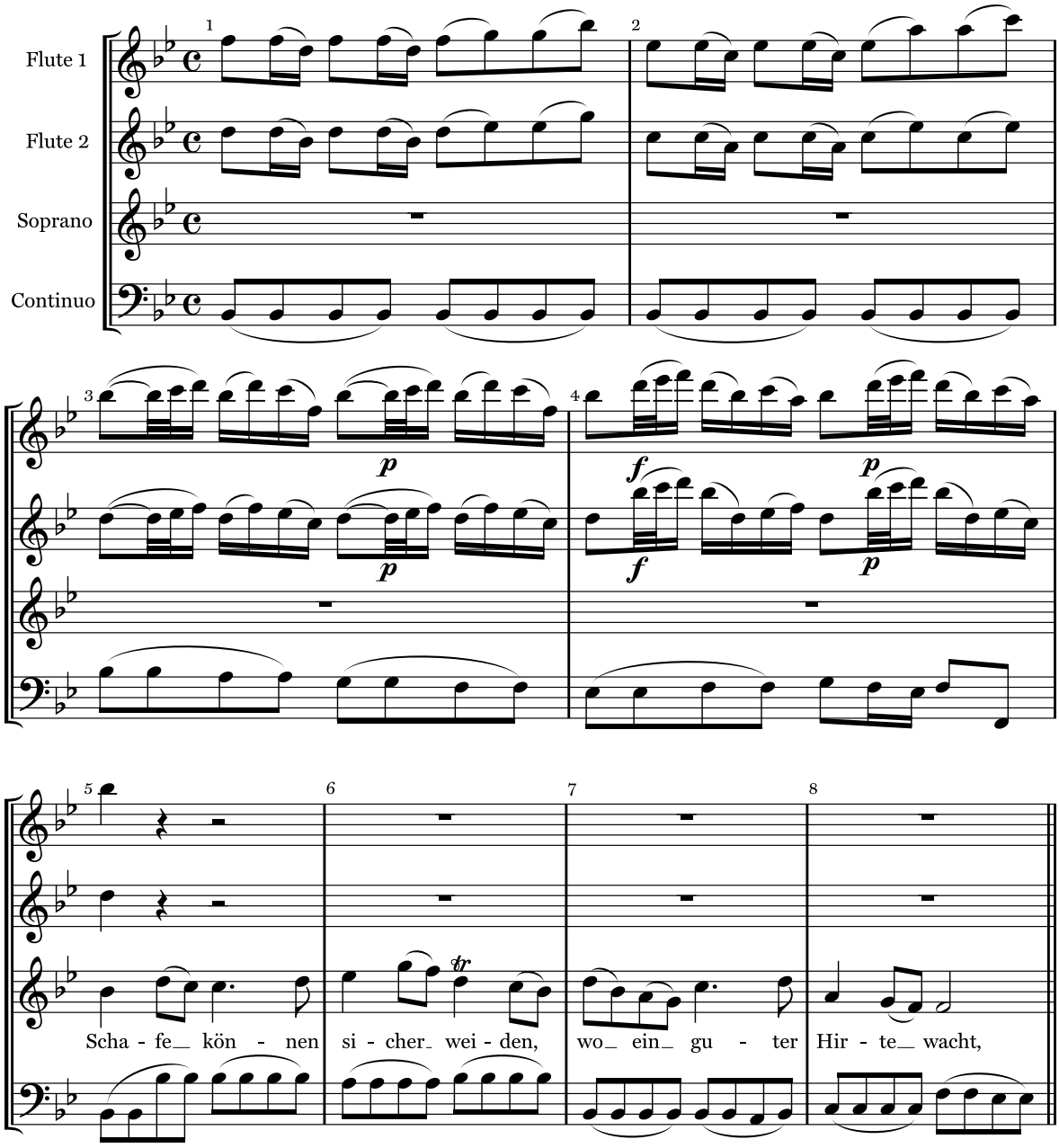
KEY CONCEPT An **aria** is an art song situated within an opera, oratorio, or cantata. In a Baroque **da capo aria**, an **A B A** design, the final **A** section is not written out again. Rather (as mentioned in Chapter 23), performers are instructed to return "da capo" (to the beginning) or "dal segno" (to the sign) and repeat the first section until they come to a fermata marking the end. The repeat of the **A** section may be abbreviated to include only the opening instrumental introduction or only a portion of the **A** section.

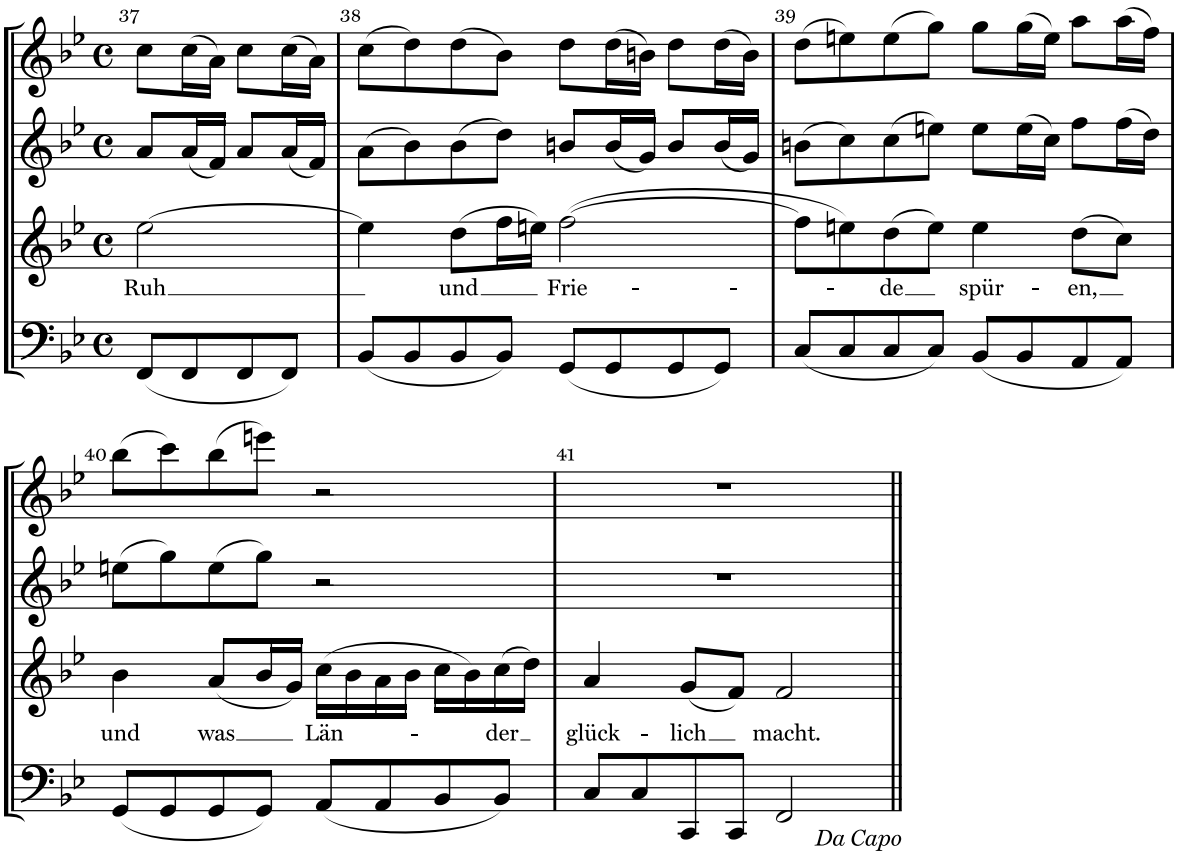
Listen to the opening of an aria from a cantata by Bach (Example 28.1). Da capo arias like this one usually feature a solo instrument (or instruments) in the introduction and in interludes between the singer's phrases. The solo instrument often has its own thematic material, referred to as the **ritornello**, which may foreshadow the vocal line or play in counterpoint with it. The **B** section is usually in a contrasting key (the dominant or a closely related key) or may modulate through several keys.

Part (a) of the example gives the B♭ major ritornello, played by

two flutes or recorders, and the opening vocal phrase, accompanied by continuo (here, an unfigured bass to be performed by cello and keyboard). As you can see from the anthology score, this section ends with a PAC in measure 21. Then the **B** section, in G minor, tonicizes C minor for two phrases before returning to G minor; the section ends with a modulation to F (part b) to prepare for the return of the opening B♭ major section. Note the *Da Capo* marking below the staff in the last measure, telling the performers to return to the "head" (beginning) and play to the fermata (or *Fine*) at the end of the repeated **A** section. The score in your anthology is a modern arrangement that instead uses a *Dal Segno* sign, meaning return to the sign (m. 6) and play to the *Fine* (m. 21).

EXAMPLE 28.1: Bach, "Schafe können sicher weiden"

(a) Mm. 1–8, opening ritornello

Translation: Sheep may safely graze, where a good shepherd keeps watch.

(b) Mm. 37–41, end of **B** section and return to **A**

Translation: [One can] feel peace and tranquility, and that which makes countries fortunate.

Other Ternary Arias

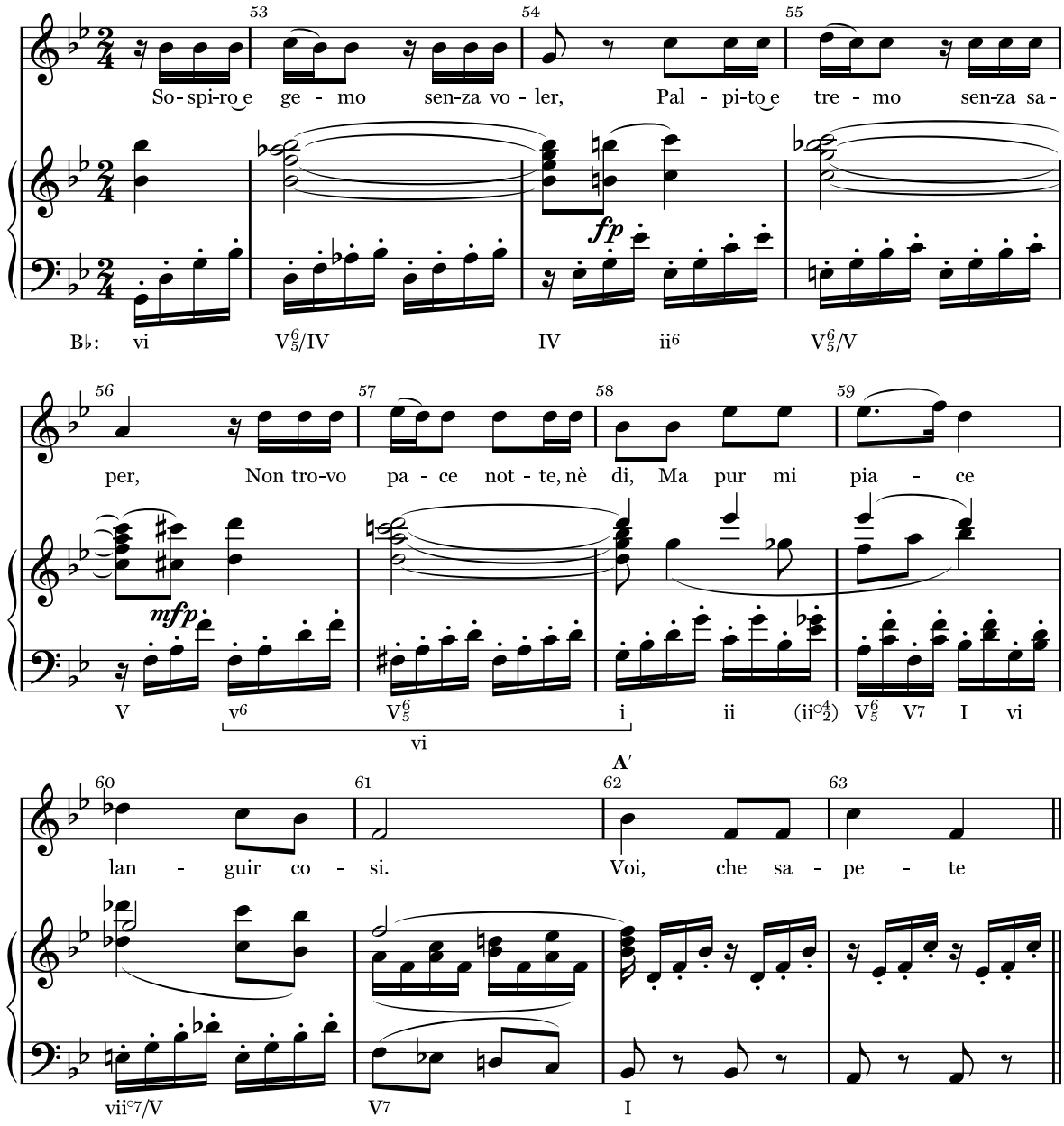
We turn now to an example of ternary form in a vocal work from the Classical era: Mozart's "Voi, che sapete" (anthology). Listen to the whole aria to determine the measure numbers in each formal unit (the **A** section should be familiar from previous chapters).

Try it #1

Write the measure numbers spanned for each section of "Voi, che sapete." Show answers

	Introduction	**A**	**B**	**A′**
Measures:	_____	_____	_____	_____

As is the case here, the three parts of a ternary form may not be equal in length, and section **B** typically explores a contrasting tonal area or may be tonally unstable. In Mozart's aria, the **A** section is a tonally stable three-phrase period in B♭ major. **B**, longer and less stable, moves first to F major (m. 21) and then is modally inflected to F minor (m. 35) as a means to tonicize A♭ major (m. 37) before passing through C minor to cadence in G minor (mm. 51–52). This section ends with an ascending sequential passage (Example 28.2) that leads to the tonic B♭ and the **A′** section in measure 62.

EXAMPLE 28.2: Mozart, "Voi, che sapete," mm. 52–63, end of **B** section

So - spi-ro e ge - mo sen-za vo - ler, Pal - pi-to e tre - mo sen-za sa -
per, Non tro-vo pa - ce not - te, nè di, Ma pur mi pia - ce
lan - guir co - si. Voi, che sa - pe - te
B♭: vi V6/IV IV ii6 V6/V
V v6 V6 i ii (ii°4/2) V6 V7 I vi
vi
vii°7/V V7 I
fp
mfp
A′

Translation: I sigh and moan without wanting to, throb and tremble without knowing why, I find no peace night or day, yet I enjoy languishing this way.

While Lorenzo da Ponte's words for the character Cherubino consist of rhyming couplets (aabbccdd, etc.) and no return of the opening text, Mozart made the decision to repeat the opening "Voi, che sapete" to create a rounded form. The first two lines of text are set in the **A** and **A′** sections, with the

remaining twelve lines forming the **B** section. These first two lines are addressed to the other characters ("You who know what love is, ladies …"), while the remaining lines are a first-person description of Cherubino's tremulous feelings ("I sigh," "throb," "tremble," etc.). These agitated lines set the context for the modulatory **B** section and its sequential ending, which climbs ever higher as his excitement grows. **Text painting** is abundant here with the rising line, sixteenth-note rapid-fire text, short subphrases to suggest breathlessness, and the poignant D♭ on "languir" (languishing) over a diminished seventh chord. In sum, three-part vocal forms vary quite a bit in terms of the dimensions, variation, tonal stability, and degree of contrast between sections—much of this hinges on the historical era, the text, and, of course, the composer's interpretation.

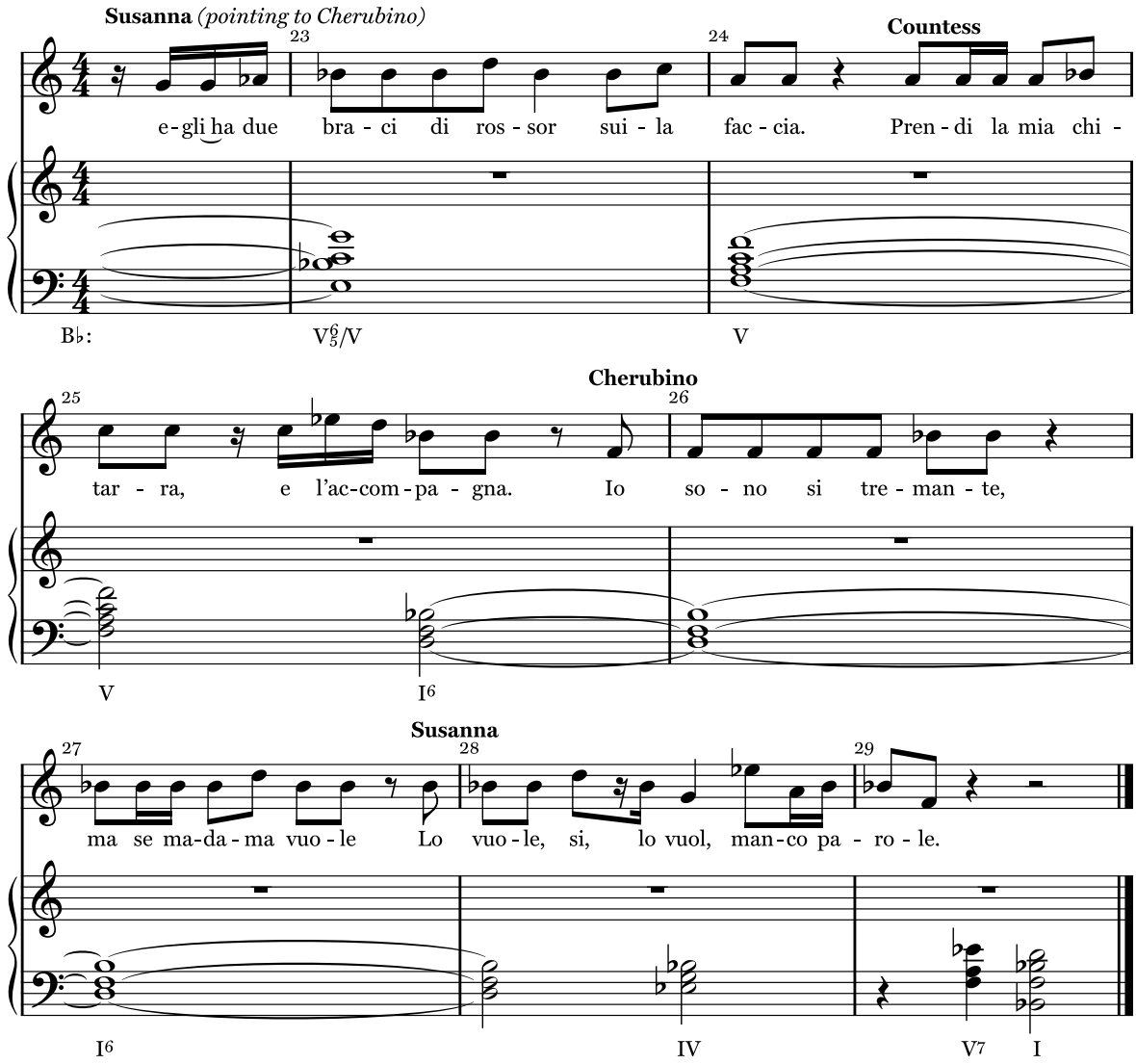
Recitatives

Cherubino's aria in *The Marriage of Figaro* is preceded by a recitative sung by a trio of characters (the Countess, Susanna, and Cherubino) as a conversation.

KEY CONCEPT A **recitative** is a relatively short vocal movement, normally paired with an aria, written in a style intended to simulate speech. Recitatives feature a quick declamation of text over sustained chords, and often modulate—sometimes rapidly and repeatedly—to underscore the drama of the text or to provide a transition to the key of the aria. They are often **syllabic** (one note per syllable)—unlike arias, which are often **melismatic** (several notes per syllable).

Recitatives serve to advance the story in operas, oratorios, and cantatas. Example 28.3 shows an excerpt of the Mozart recitative, in which Susanna asks Cherubino to sing the song he

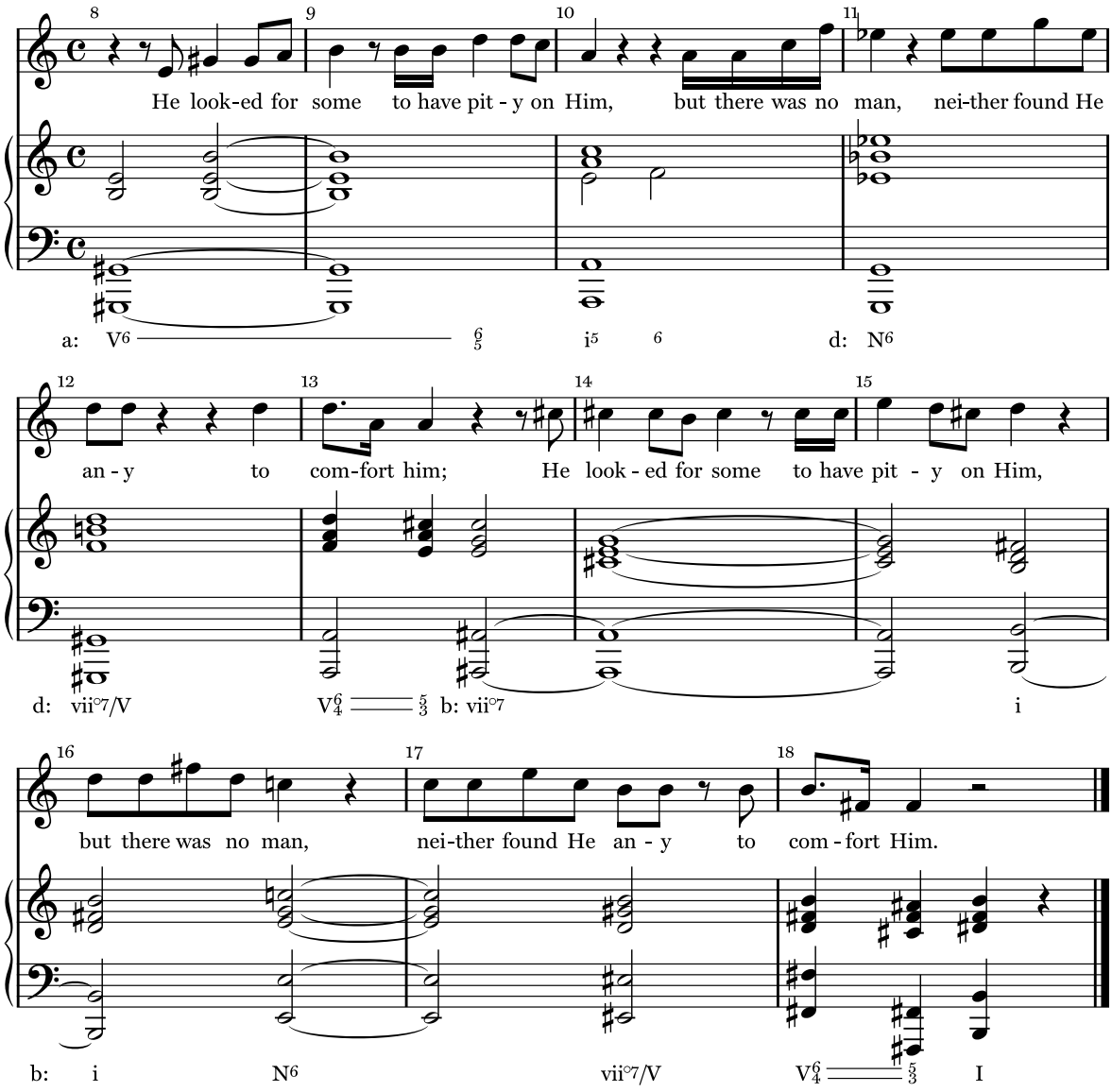
has written. Beginning in C major, it modulates to B♭ major, the key of "Voi, che sapete." Recitatives of this type are sung with considerable rhythmic freedom, in imitation of speech (*parlando* style), and rhythms notated here only approximate what you would hear in a performance. This type of recitative, accompanied by sustained chords on a continuo instrument (like harpsichord), is known as ***recitativo secco*** (dry recitative). In contrast, ***recitativo accompagnato*** (accompanied recitative) employs, as the name implies, a fully notated orchestral accompaniment, and is performed more closely to the notated rhythms.

EXAMPLE 28.3: Mozart, "Quanto duolmi, Susanna," mm. 23–29

Susanna (pointing to Cherubino)
Countess
e - gli ha due bra - ci di ros - sor sui - la fac - cia. Pren - di la mia chi -
B♭: V6/5/V V
Cherubino
tar - ra, e l'ac-com - pa - gna. Io so - no si tre - man - te,
V I6
Susanna
ma se ma-da - ma vuo - le Lo vuo - le, si, lo vuol, man - co pa - ro - le.
I6 IV V7 I

Translation: (Susanna) Look, he has two blushing embers on his face. (Countess) Take my guitar and accompany him. (Cherubino) I am trembling, but if Madame wishes. (Susanna) She wishes, yes she wishes—no more talk.

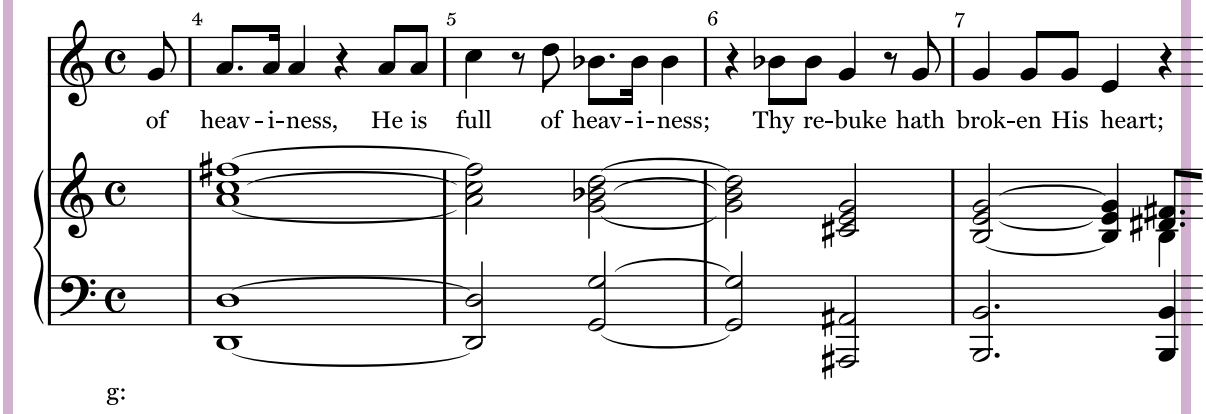
Baroque-era recitatives tend to be highly expressive and tonally less stable than the Mozart recitative. Look, for example, at a passage from "Thy rebuke hath broken his heart," a tenor recitative from Handel's *Messiah*. Within the recitative's short eighteen measures are numerous brief tonicizations (see Example 28.4). In analyzing the shifting tonality, the best strategy may be to listen for cadential formulas, such as V7–i

and $V^{6\text{-}5}_{4\text{-}3}$, which clearly articulate the tonal arrivals in measures 8–10 and 13, then work backward from those points. Expect sudden direct modulations, without pivot chords. Some abrupt key juxtapositions may be prepared by the same series of harmonies previously heard in another key: for example, the distinctive progression of measures 11–13 in D minor reappears in 16–18 in B minor.

EXAMPLE 28.4: Handel, "Thy rebuke hath broken his heart," mm. 8–18

8
9
10
11
He look-ed for some to have pit - y on Him, but there was no man, nei-ther found He
a: V6 6/5 i5 6 d: N6
12
13
14
15
an - y to com-fort him; He look - ed for some to have pit - y on Him,
d: vii°7/V V6/4 5/3 b: vii°7 i
16
17
18
but there was no man, nei-ther found He an - y to com - fort Him.
b: i N6 vii°7/V V6/4 5/3 I

Try it #2

Provide a Roman numeral analysis for measures 4–7 of the Handel recitative. **Show answers**


4
5
6
7
of heav - i - ness, He is full of heav - i - ness; Thy re - buke hath brok - en His heart;
g:

Text and Song Structure

To explore how the form and meaning of a text interact with musical structure, we turn now to the German **Lied** (plural **Lieder**), a type of art song that flourished in Germanic countries in the late eighteenth to early twentieth centuries. **Art songs** are settings of mostly poetic texts for voice and piano, intended for performance in recitals. An analysis of any art song requires us to study the words as well.

Consider the poem "Im wunderschönen Monat Mai," by nineteenth-century German poet Heinrich Heine, set to music by Robert Schumann.

Im wunderschönen Monat Mai,	a	In the lovely month of May,
Als alle Knospen sprangen,	b	When all the buds were bursting,
Da ist in meinem Herzen	c	Then within my heart
Die Liebe aufgegangen.	b	Love began to blossom.
Im wunderschönen Monat Mai,	a	In the lovely month of May,
Als alle Vögel sangen,	b	When all the birds were singing,
Da hab' ich ihr gestanden	d	Then I confessed to her
Mein Sehnen und Verlangen.	b	My longing and desire.

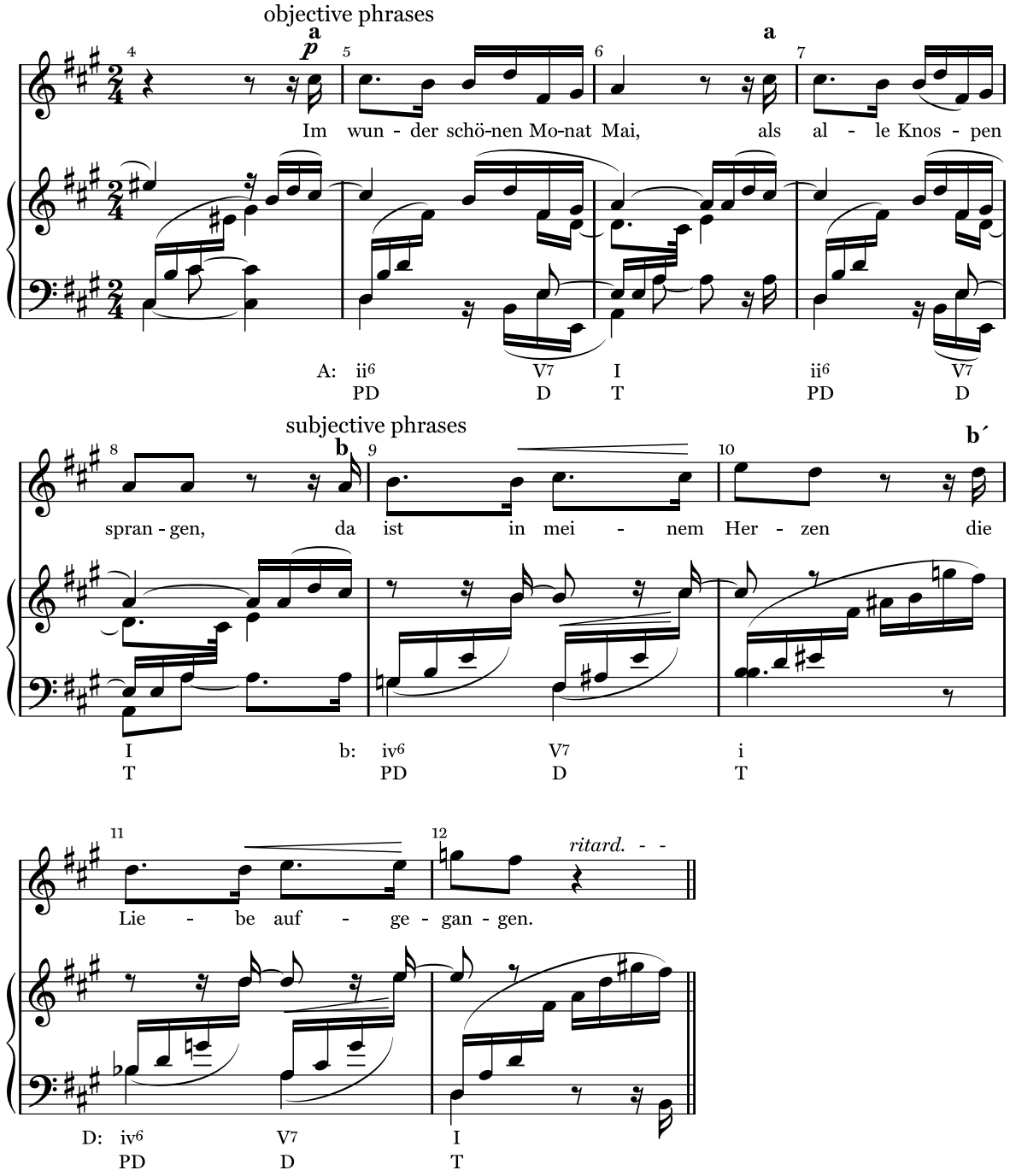
Begin by thinking about the poem's imagery, story, and structure, apart from its musical setting. Often the pattern of words, lines, and rhymes will suggest a particular type of musical design that may or may not be borne out in the composer's realization.

Heine's text consists of two four-line **strophes**, sometimes called "stanzas" or "verses." The letters indicate the rhyme scheme: rhyming German words at the end of each line take the same lowercase letter. The first two lines of each strophe show a parallel structure: both begin with the same six words. This structure suggests that the composer might set these parallel lines with parallel music.

Further, each group of four lines pairs into two couplets (of

two lines each). The first couplet is almost entirely objective—lines written in the third person that simply describe a spring day, with flowers blooming and birds singing. The second couplet focuses on the poet's subjective feelings: "within my heart love began to blossom" and "I confessed to her my longing and desire."

Listen to the first verse, while following Example 28.5, to hear how Schumann portrays the structure of the poetry musically. Following a piano introduction that suggests F♯ minor, the verse extends for eight measures (mm. 5–12), in two-measure units, beginning in A major. The two objective phrases are set in parallel structure (**a a**), as are the two subjective phrases (**b b′**). The musical setting (**a a b b′**), then, parallels the meaning of the text—the shift from objective to subjective—rather than the rhyme scheme (abcb).

EXAMPLE 28.5: Schumann, "Im wunderschönen Monat Mai," mm. 4–12

objective phrases
a
p
Im wun - der schö-nen Mo-nat Mai,
a
als al - le Knos - pen
A: ii6 V7 I ii6 V7
PD D T PD D
subjective phrases
b
spran - gen, da ist in mei - nem Her - zen
b´
die
I b: iv6 V7 i
T PD D T
ritard. - -
Lie - be auf - ge - gan - gen.
D: iv6 V7 I
PD D T

Translation: In the lovely month of May, when all the buds were bursting, then within my heart love began to blossom.

Each two-measure grouping in measures 5–12 expresses only the PD–D–T portion of the phrase: the objective lines in A major (ii^{6}–V^{7}–I) and the subjective lines in different

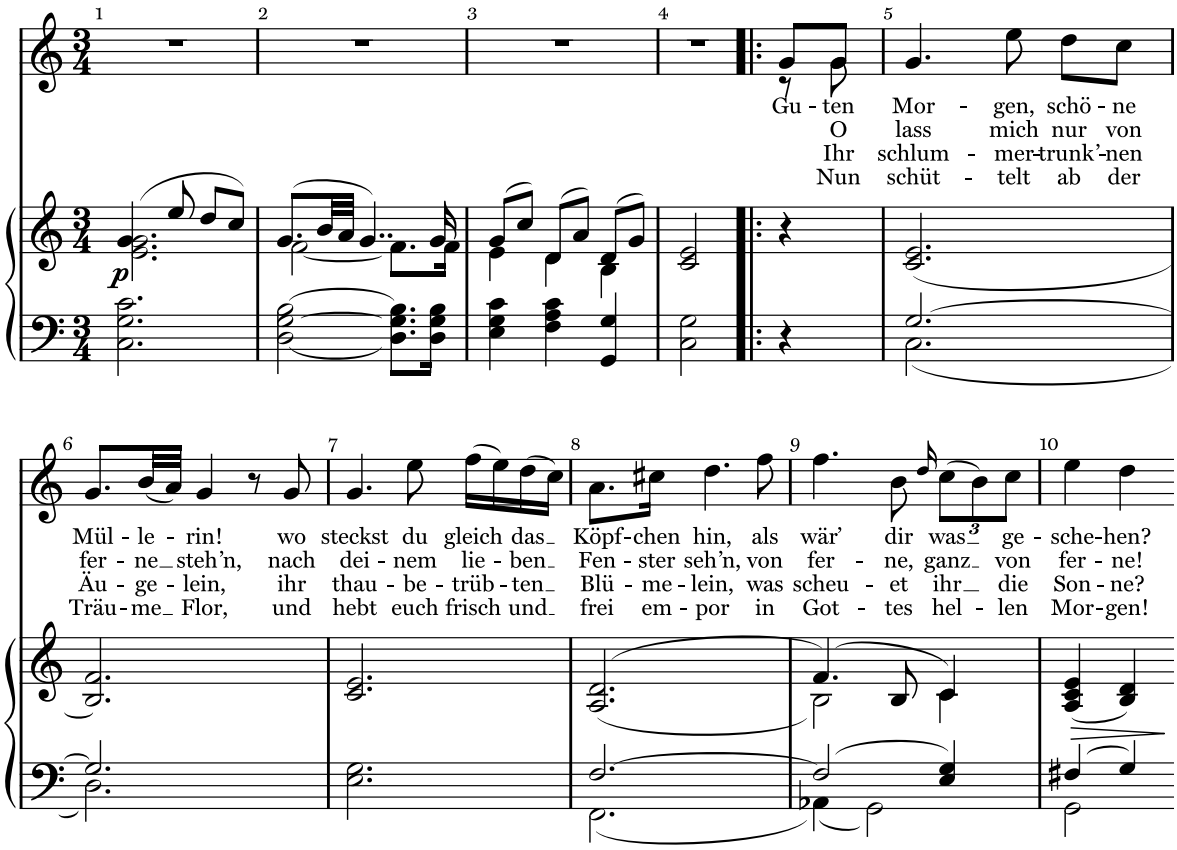
transpositions, tonicizing B minor and D major (iv^6–V^7–i or I). The objective couplet of each strophe also contrasts with the subjective by its lower range, stable major key, and stepwise approach to the tonic: $\hat{6}$–$\hat{7}$–$\hat{1}$ over a V^7–I harmony. The shift to first person narrative in the subjective text is marked by upward transpositions, a higher vocal range, an ascending melody, and vocal skips to downbeat appoggiaturas (incomplete neighbors, mm. 10 and 12)—all expressive means to depict the longing of the protagonist.

Strophic Form

As you can see in the anthology score, the second verse of Schumann's Lied (mm. 16–23) is set to exactly the same music.

KEY CONCEPT Songs in which more than one strophe (or verse) of text is sung to the same music are called **strophic**, a term derived from the strophes of poetry. Hymns and carols, folk songs, and popular songs are often strophic.

Because strophic settings feature the same music for several verses, they may appear printed with the strophes of text aligned under a single melodic line, as in Example 28.6, with repeat or "da capo" signs indicating a return to the beginning; or each verse may be written out separately, as in Schumann's song. Verses may also be preceded or followed by instrumental introductions or postludes, as in both examples.

EXAMPLE 28.6: Schubert, "Morgengruss," mm. 1–10

Gu - ten Mor - gen, schö - ne
O lass mich nur von
Ihr schlum - mer-trunk'-nen
Nun schüt - telt ab der
p
Mül - le - rin! wo steckst du gleich das Köpf-chen hin, als wär' dir was ge - sche-hen?
fer - ne steh'n, nach dei - nem lie - ben Fen - ster seh'n, von fer - ne, ganz von fer - ne!
Äu - ge - lein, ihr thau - be - trüb - ten Blü - me - lein, was scheu - et ihr die Son - ne?
Träu - me Flor, und hebt euch frisch und frei em - por in Got - tes hel - len Mor-gen!

(See anthology for translation.)

SUMMARY

Poetry set to music is generally analyzed with respect to

- strophes – the division of the poem into verses;
- couplets – paired lines within the poem;
- rhyme scheme – the pattern of rhymes at the end of each line;
- parallel text – repeated words, or a similar change in narrative voice, in two or more strophes;
- objective or subjective stance–third person narrative vs. personal reflection.

Try it #3

Try it #3

Provide a rhyme-scheme analysis for the poem below, set to music by Clara Schumann, by writing alphabet letters at the end of each line of German text. Does this lyric feature a shift from an objective to subjective stance? Are there parallelisms in the text that might suggest a particular musical design? Listen to the song while following the anthology score.

Friedrich Rückert, "Liebst du um Schönheit"

Show answers

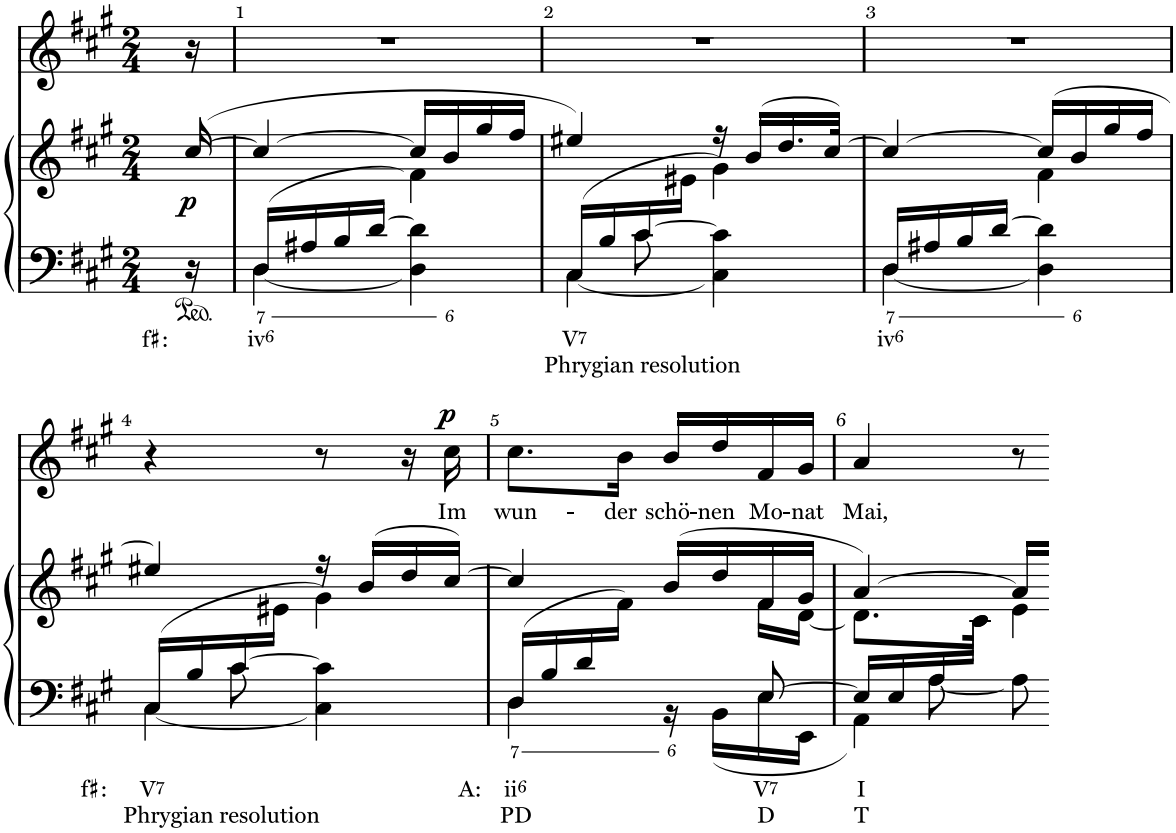
Liebst du um Schönheit, o nicht mich liebe!	___	If you love for beauty, oh do not love me!
Liebe die Sonne, sie trägt ein goldnes Haar!	___	Love the sun; she has golden hair!
Liebst du um Jugend, o nicht mich liebe!	___	If you love for youthfulness, oh do not love me!
Liebe den Frühling, der jung ist jedes Jahr!	___	Love the springtime; it is young every year!
Liebst du um Schätze, o nicht mich liebe!	___	If you love for wealth, oh do not love me!
Liebe die Meerfrau, sie hat viel Perlen klar!	___	Love the mermaid; she has many fair pearls!
Liebst du um Liebe, o ja–mich liebe!	___	If you love for love itself, oh yes, love me!
Liebe mich immer, dich lieb ich immerdar!	___	Love me always, and I will love you forever!

Text Painting

Heine's poem "Im wunderschönen Monat Mai" seems to express the joys of spring and first love, which might best be represented by an exuberant major-key setting. Yet Schumann's song instead seems uneasy and restless: his choice of harmonies suggests that all is not well–perhaps the poet's love is not returned. This uneasiness begins with the piano introduction (Example 28.7), which implies F♯ minor

ambiguously through a series of Phrygian resolutions (iv6–V7), without ever expressing a complete phrase or tonic harmony; the leading tone (E♯) is left dangling in the piano's melodic line (mm. 2 and 4), and even the iv6 is clouded with a dissonant incomplete neighbor, A♯3. Further obscuring the harmony is the initial C♯5, part of a dissonant 7–6 suspension, that emerges in measures 4–5 as the first pitch of the vocal line. Only with the entrance of the voice does the C♯5 finally lead unambiguously into A major.

EXAMPLE 28.7: Schumann, "Im wunderschönen Monat Mai," mm. 1–6



The conflict between the F♯ minor introduction and the A major start of the verse raises questions regarding the main key

of the song. The tonality continues to be unstable throughout; not even the postlude brings resolution—the song ends on an unstable V^7 chord in F♯ minor. This unstable harmonic setting could foreshadow the state of this lover's relationship as the songs continue; as such, the setting is an example of text painting.

KEY CONCEPT **Text painting** is a means of depicting images or ideas from a text through music. Piano accompaniments may sound like the rustling of trees, the babbling of a brook, the thunder of horse hooves, or the cooing of a dove. Text painting in vocal lines may include rising passages or upward leaps to depict joy or heaven, and dissonances, downward leaps, or descending semitones to depict sadness or the grave.

You may come across similar effects in Romantic-era instrumental compositions without text, particularly when these works are based on a "program"—a story line, characters, or a specific setting—as is the case for piano character pieces or symphonic tone poems. Typical subjects in Romantic poetry are nature, wandering, hunting, unattainable or lost love, and death —all well suited to musical depiction through text painting. Sometimes several poems are linked by a narrative, characters, and certain imagery.

KEY CONCEPT A **song cycle** is a group of songs, generally performed as a unit, set either to a single poet's cycle or to poems that the composer has grouped to create a cycle. The songs are often ordered to tell a story and may be connected by key relationships or recurring motives.

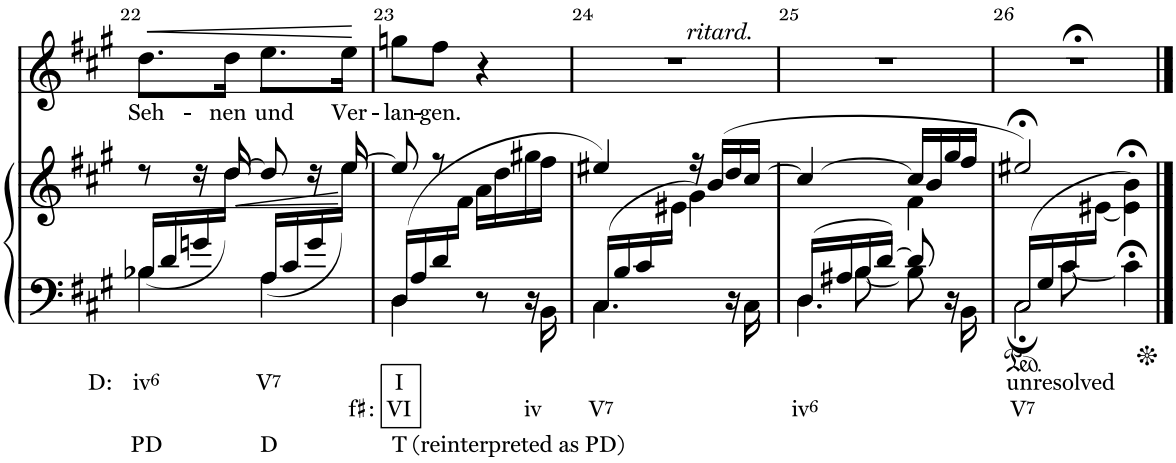
"Im wunderschönen Monat Mai" is the first song of Schumann's cycle *Dichterliebe* (*The Poet's Love*). He wrote several other cycles, including two simply entitled *Liederkreis* (*Song Cycle*)

and one specifically from a woman's point of view, *Frauenliebe und -leben* (A *Woman's Love and Life*). Among other famous song cycles are two by Schubert, *Die schöne Müllerin* (*The Fair Maid of the Mill*) and *Winterreise* (*Winter Journey*).

Analysis and Interpretation

In a performance of Schumann's song, pianist and singer alike might bring out its musical ambiguities, as preparation for the story of love and loss to come. For example, the pianist could hesitate on the opening C♯5 (Example 28.7), whose role is unclear, before adding the supporting harmony that explains its dissonant function. The perpetual arpeggiated texture of the piano part—perhaps representing a breeze blowing on the flower blossoms—might be played with the rhythmic freedom of nature, especially where the voice is not present. Also important for the pianist is the close of the song, with its unresolved dominant seventh harmony and incomplete iv^{6}–V^{7} motion (Example 28.8).

EXAMPLE 28.8: Schumann, "Im wunderschönen Monat Mai," mm. 22–26



Translation: Longing and desire.

Here Schumann notates a ritard in measure 24 and a fermata both on the downbeat of measure 26 and on the final chord—leaving the most active pitches of this chord exposed in the upper voices: the leading tone in the soprano (E♯5) and the unresolved chordal seventh (B4). The next song will immediately return to A major.

When the singer enters with the first line, he may want to linger on the beautiful C♯ dissonance, which highlights the descriptive word “wunderschönen” (lovely), before proceeding. The objective lines might be sung with a vocal tone that supports the joy in the spring day; with the subjective lines, the singer could change to a tone that expresses love, longing, and uncertainty of what is to come. As he climbs to the higher register, he may also want to *crescendo* and emphasize the accented dissonances, especially on “Verlangen” (desire). The singer’s face and body should likewise maintain the sense of longing throughout the postlude, as the piano reinforces the mood of the text so effectively.

Other Vocal Forms

Modified Strophic Form

Sometimes you will encounter songs where the music seems strophic, but each verse is somehow varied. Listen, for example, to Clara Schumann's "Liebst du um Schönheit" while following the anthology score. Friedrich Rückert's poem, given in *Try it* #1, is structured in a way that suggests a strophic setting, as each strophe begins the same: "Liebst du um …" Also, as you may have discovered, each couplet displays the same rhyme scheme, ab. Yet there is a difference in the last verse: the singer turns the negative first line to an affirmative one, "o ja—mich liebe!" (oh yes, love me!), suggesting a different compositional treatment.

KEY CONCEPT In **modified strophic form**, each verse of a song may begin the same way but end differently, or the song may vary the verses through harmonic or melodic changes, interpolated music, or other means.

Schumann begins her setting of each stanza identically, but adds subtle differences in each continuation. The first and third stanzas are quite similar; the second and fourth end differently, and the fourth is extended with a repetition of text and its crucial "oh ja—mich liebe!" to mark the climactic shift to the affirmative.

Through-Composed Form

In a sense, the "opposite" of a strophic song is a through-composed one: here, rather than repeating the melody from stanza to stanza, the music for each stanza (or each line) is

different.

KEY CONCEPT A **through-composed** song is one in which the composition develops continuously—in new, though perhaps motivically related, ways—as the song unfolds. While a through-composed song may include patterns of repetition, these patterns will not fall into typical musical forms, such as **A A′ , A B A, A A B**, or **A A B A**.

Schubert's "Erlkönig" is a dramatic example of a through-composed song, united from verse to verse by a piano motive that appears as introduction, interlude, and accompaniment to some verses. You have listened to excerpts in recent chapters, but now consider the song as a whole, to see how its text, harmony, and motivic structure work together to create a powerful musical drama. Read through Goethe's poem and translation in your anthology; in your score, mark the beginning and end of each strophe, as well as who is speaking–the narrator, the father, the son, or the Elf King. Observe any motives or accompanimental patterns that are associated with particular characters.

Try it #4

Listen to "Erlkönig" in its entirety.

1. Each strophe has the same rhyme scheme. Circle the alphabet letters that best capture this design: abab abcb aabb abca

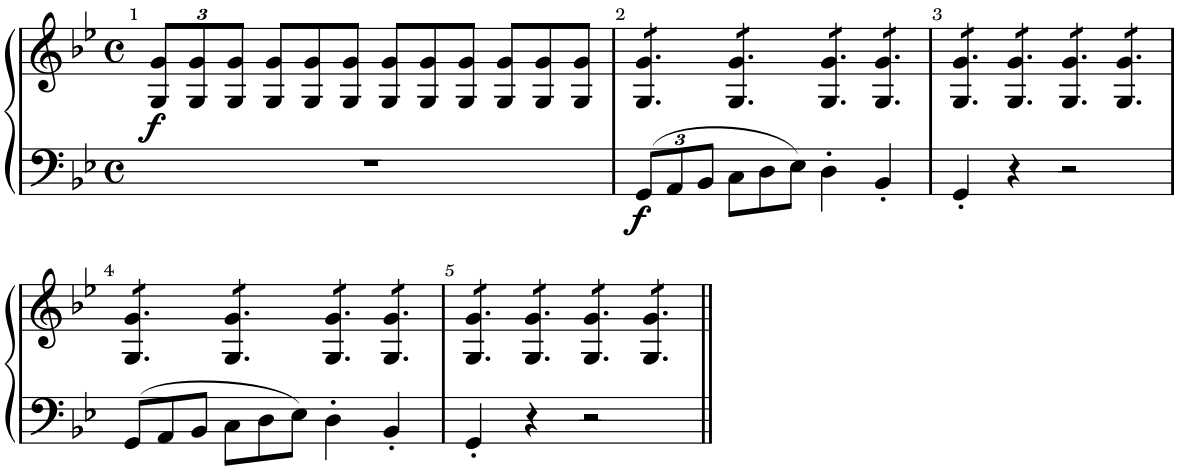
2. For each of the eight strophes, write the name of the character(s) speaking, and the corresponding measure numbers.

Show answers

	Character(s)	*Measures*
Strophe 1:	_____	mm. _____
Strophe 2:	_____	mm. _____

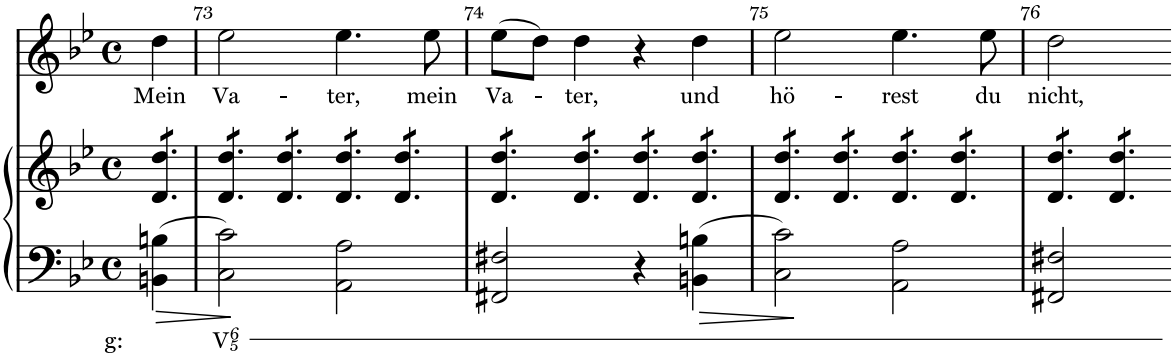
Strophe 3: _____ mm. _____
Strophe 4: _____ mm. _____
Strophe 5: _____ mm. _____
Strophe 6: _____ mm. _____
Strophe 7: _____ mm. _____
Strophe 8: _____ mm. _____

Although it is through-composed, "Erlkönig" includes a number of compositional features—particularly recurring motives—that help tie the work into a unified whole. One of the most striking motives appears in the piano left hand (Example 28.9). This triplet motive (mm. 2–3, 4–5), which accompanies the narrator, is heard in G minor at the beginning and end of the song, and in other keys elsewhere. Meanwhile the triplet octaves in the right hand evoke the thundering of horse hooves through the night as the boy and his father ride through the forest (for convenience of reading, the triplet eighths are notated 𝅘𝅥𝅮.).

EXAMPLE 28.9: Schubert, "Erlkönig," mm. 1–5 (riding motive)

The motive most associated with the son is the half-step neighbor tone, shown in Example 28.10. This motive is often

sung to the text “Mein Vater, mein Vater” (My father), and each time the boy sings this plaintive plea, it appears higher in his range: compare measures 72–74 (D5–E♭5–D5) with 97–99 (E5–F5–E5) and 123–125 (F5–G♭5–F5). Further, it is sung as dissonant 7–6 motion above an arpeggiated V$^{6}_{5}$ of the local key (adding a minor ninth to the V^{7} harmony), emphasizing the child’s distress. Even before the “Mein Vater” pleas, he sings this half-step (mm. 46–47 and 48–49, C5–D♭5).

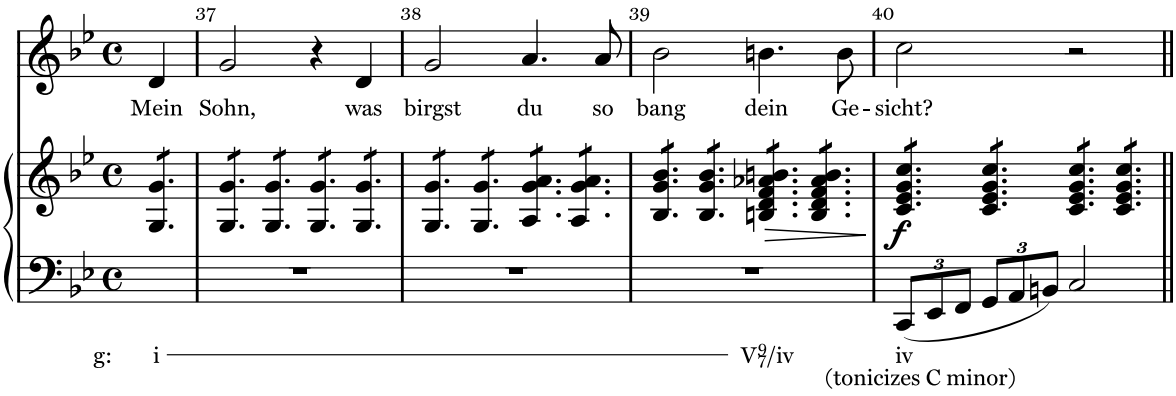
EXAMPLE 28.10: Schubert, “Erlkönig,” mm. 73–76 (son’s motive)



Translation: My father, my father, don’t you hear?

The father’s reassurances to his son often feature perfect intervals of the fourth or fifth to the text “Mein Sohn” (My son)—in staunch denial of any danger—and his vocal range lies consistently lower. Example 28.11 shows the father’s first rising P4 motive, which also climbs higher and higher as the song progresses, from measures 36–37 (D4–G4) to 80–81 (F♯4–B4) and 105–106 (G♯4–C♯5).

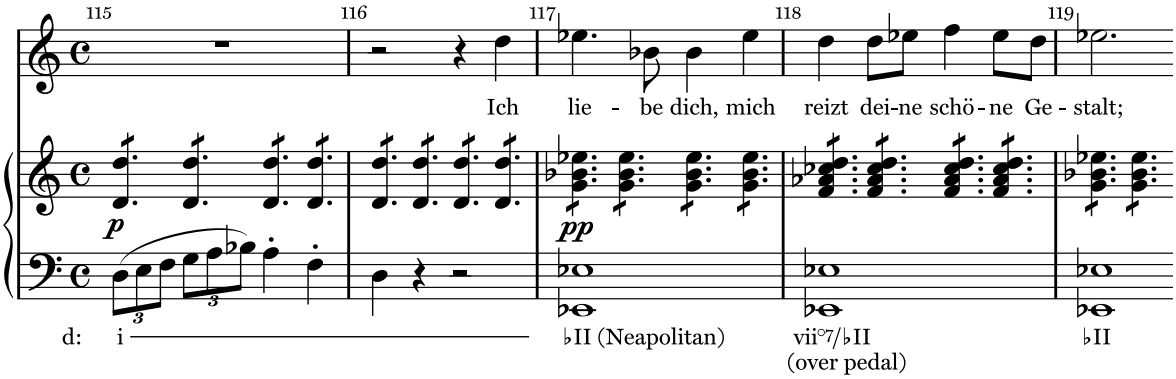
EXAMPLE 28.11: Schubert, “Erlkönig,” mm. 37–40 (father’s motive)



Translation: My son, why do you hide your face, so afraid?

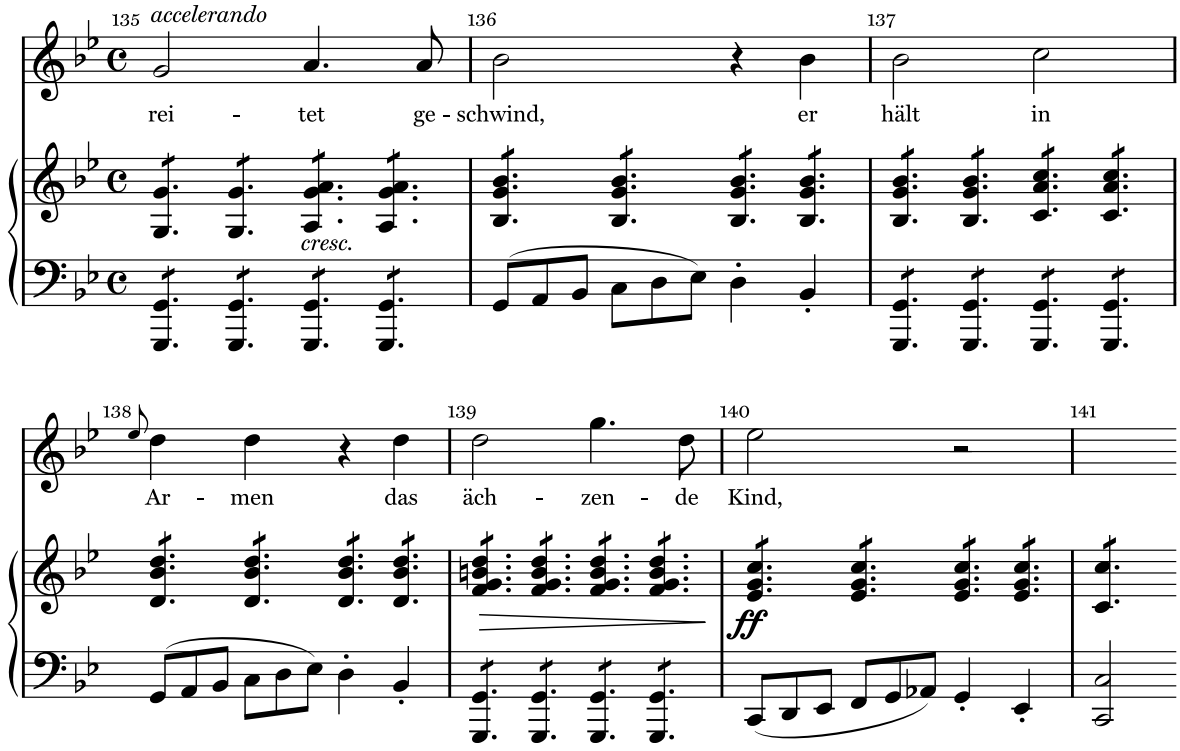
Both of these motives appear also in the music of the narrator and—more chillingly—the Elf King. This evil forest spirit attempts to coax the boy rather than frighten him, therefore his music is almost always in a major key. In measures 69–70, the Elf King appropriates the rising P4 from the father and sings it to the text "meine Mutter" (my mother). In 116–117, in his final appeal before snatching the boy away, the Elf King uses both the son's neighbor-tone motive and the father's perfect fourth, now descending as well as rising, as he sings "Ich liebe dich" (I love you). Example 28.12 gives this climactic moment, tonicizing the Neapolitan of the local D minor tonic.

EXAMPLE 28.12: Schubert, "Erlkönig," mm. 115–119 (son and father motives sung by the Elf King)



Translation: I love you, I am tempted by your beautiful form.

Sometimes composers embed motives in their works at different hierarchical levels. That is, a motive that originally appears within a single measure may be drawn out to span many measures, in a new rhythmic and tonal context—a practice called **motivic parallelism**. One example is the left-hand G minor "riding" motive from the song's introduction (mm. 2–3). This motive is characterized by two parts. The first is a rising scale with half-step neighbor tone at the top, perhaps the source of the son's half-step motive: G–A–B♭–C–D–E♭–D. The second part is a descending minor triad: D–B♭–G. As Example 28.13 shows, the narrator's final speech is a large-scale replication of the G minor scale—with the neighbor E♭–D as a grace note on "Armen"—accompanied by the original version simultaneously in the piano. This subphrase ends by poignantly combining the P4 and neighbor-tone motives to "ächzende Kind" (moaning child).

EXAMPLE 28.13: Schubert, "Erlkönig," mm. 135–141

Translation: [The father] rides quickly, he holds in his arms the moaning child.

While the motivic recurrences provide unifying elements in this long and complex song, the pattern of tonicized keys likewise plays a unifying role. In a striking motivic parallelism, the large-scale succession of keys also "spells out" most of the riding motive: G minor (beginning in m. 1), B♭ major (m. 58), C major (m. 87), D minor (m. 112), E♭ (briefly tonicized as a Neapolitan, m. 117), D minor (m. 123), tonicized V/B♭ (m. 124), G minor (m. 131).

French Mélodie

Romantic-era songs in the French tradition are called **mélodie**, and principal composers include Charles Gounod, Jules Massenet, Henri Duparc, and Gabriel Fauré (and, somewhat later, Claude Debussy and Maurice Ravel). French mélodie typically fall into two- or three-part forms, which tend to be

more concise than German Lieder, with a harmonic palette that is enriched in different ways. Before we turn to the harmonic analysis of Fauré's "Après un rêve" ("After a Dream"), first read the poem by Romain Bussine.

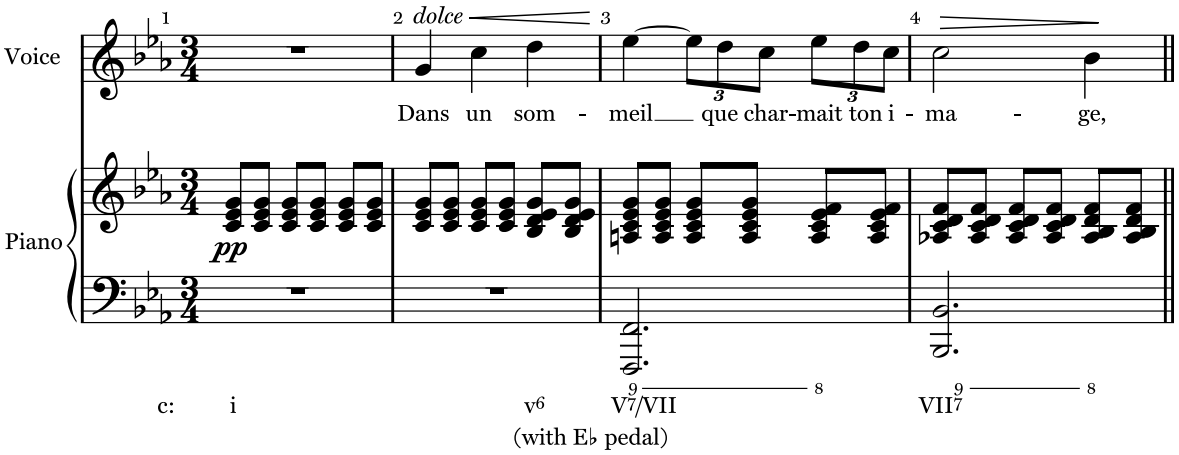
Dans un sommeil que charmait ton image Je rêvais le bonheur, ardent mirage, Tes yeux étaient plus doux, ta voix pure et sonore, Tu rayonnais comme un ciel éclairé par l'aurore;	In a sleep that your image charmed, I dreamed of happiness, ardent mirage, Your eyes were softer, your voice pure and sonorous, You shone like a sky lit by the dawn;
Tu m'appelais et je quittais la terre Pour m'enfuir avec toi vers la lumière, Les cieux pour nous entr'ouvraient leurs nues, Splendeurs inconnues, lueurs divines entrevues,	You called me and I left the earth To run away with you toward the light, The skies parted their clouds for us, Splendors unknown, divine light glimpsed,
Hélas! Hélas! triste réveil des songes Je t'appelle, ô nuit, rends moi tes mensonges, Reviens, reviens radieuse, Reviens, ô nuit mystérieuse!	Alas! Alas! sad awakening from the dreams, I call you, O night, give me back your lies, Return, return radiant, Return, O mysterious night!

Each strophe has an aabb rhyme scheme, with the two couplets in the last strophe set apart from the rest of the poem by their repeated words: "Hélas! Hélas!" and "Reviens, reviens." There is also a shift from dreaming to wakefulness: the first two verses speak of rapturous love taking place in a dream, but the last describes a sad awakening and a plea to return to pleasant dreams. This poetic structure suggests an **A A B** song form, which Fauré indeed follows in his setting (anthology).

Look at the opening of the mélodie, in Example 28.14. The dreamlike mood is established at the beginning by the *pianissimo* dynamic level, placid reiterated chords, and languid descending triplets in the vocal line. The harmonies, even in the first measures, already differ from the earlier Germanic music we have encountered by the absence of a leading tone in minor: for example, the minor dominant of measure 2 and subtonic ninth chord (a product of 9–8 motion above the stationary bass) in measure 4. The leading tone does not appear until the half cadence in measures 7–8 (not shown). Similar alterations of

diatonic harmonies, idiomatic of late-Romantic French style, color the entire song, which rarely strays from its C minor tonality—only briefly tonicizing the relative major.

EXAMPLE 28.14: Fauré, "Après un rêve," mm. 1–4



Formally, the mélodie begins as though strophic, with measures 17–26 (verse 2) nearly identical to 2–11 (verse 1). But verse 2 builds to the word "entrevues" and elides directly into a contrasting, dramatic verse 3 that makes this a ternary form: **A A′ B**.

When you prepare a song for performance, consider well the structure and meaning of the text, as well as whether it fits one of the forms discussed in this chapter. In strophic settings, think about how to create a sense of the story's development despite the literal repetition of music—perhaps by inflecting particular words, selecting contrasting dynamic levels, or making subtle changes in tempo. In ternary songs, the same strategy applies for the repeated **A** sections, while the **B** sections need to be set apart through interpretive choices—changes in color, articulation, or tempo, for example. In Baroque da capo arias, performers often ornament the return of **A** to create variety and a graceful close to the work.

In any song form, think about the distinction between a phrase of text and a phrase of music. Look for the cadence to determine musical phrase endings, and examine the harmonic (as well as poetic) structure to determine points of arrival, where to take a breath, and where not to breathe if possible. Think about the effect of unexpected harmonies or mixture chords and how these relate to crucial words. Above all, the singer and accompanist should study the text and music together to make collaborative decisions in service of the poetry and song.

Did You Know?

Oratorios, like operas, are extended works for vocal soloists and chorus accompanied by orchestra. They are intended for concert performance and usually recount religious or historical stories (as does Handel's *Messiah*). Cantatas are similar—especially in their mature form in eighteenth-century Germany—in that they also feature soloists, choir, and small orchestra, but they were originally composed as religious service music with texts appropriate to their position in the church year. The sacred cantatas of J. S. Bach incorporate chorale settings, other choral movements, recitatives, and arias with religious texts. The performance of sacred cantatas in church settings allowed people who would not normally have an opportunity to hear opera or oratorios to enjoy the latest art-music styles. Bach wrote secular cantatas as well, including Cantata No. 208, which features pagan gods Diana, Endymion, Pan, and Pales, and depicts pastoral images of sheep and shepherds and the joys of the hunt.

TERMS YOU SHOULD KNOW

aria
- da capo aria

art song
cantata
couplet
libretto
Lied
mélodie
objective-subjective stance
oratorio
recitative
- accompagnato
- secco

ritornello
song cycle
song forms
- strophic
- modified strophic
- ternary (three part)
- through-composed

strophe (or verse or stanza)
text painting
textual analysis
text setting
- melismatic
- syllabic

QUESTIONS FOR REVIEW

1. What formal designs are commonly found in song settings?
2. How do da capo arias differ from other arias? from other ternary forms?
3. What strategies might an analyst use to interpret rapidly shifting keys in recitatives?
4. How might an analysis of the text help determine the form of a song? How might it influence analysis of the music? How might analysis influence performance choices?
5. How might a composer create unity or continuity in a through-composed song?
6. What differences in harmonic choices are found in French mélodie in comparison with German Lieder?
7. In music for your own instrument, find a piece that uses text painting. (Instrumentalists: Examine pieces with titles that imply a story line or other programmatic element; consider ensemble works as well.) What types of motives represent the ideas in the text or program? How might you perform those motives to express the meaning of the text or program?

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29 Popular Music

Outline

Popular song
- Quaternary and verse-refrain forms
- Harmonic practices
- Suspensions and rhythmic displacement
- Altered fifths and tritone substitutions

The twelve-bar blues
- Pentatonic and blues "scales"
- Blues harmonic progressions and phrase structure

Post-1950 popular song
- New elements of form
- Harmony and melody

Overview

In this chapter, we examine the harmonic features and formal organization of songs at the foundation of modern popular music: Broadway show tunes, Tin Pan Alley songs, jazz standards, folk music, parlor ballads, and the blues. We then consider innovations in more recent styles.

Repertoire

"The Ash Grove"
Count Basie, "Splanky"
George Gershwin and Ira Gershwin, "I Got Rhythm," from *Girl Crazy*
Brian Holland, Lamont Dozier, and Edward Holland Jr., "Baby Love"
Carole King, "You've Got a Friend"
Jerry Leiber and Mike Stoller, "Hound Dog"
John Lennon and Paul McCartney, "Eleanor Rigby," from *Revolver*
Freddy Mercury, "Crazy Little Thing Called Love"
James Myers and Max Freedman, "Rock Around the Clock"
Katy Perry, Lukasz Gottwald, Max Martin, Bonnie McKee, and Henry Walter, "Roar"
Vicki Sue Robinson, "Turn the Beat Around"
Tiësto (Wayne Anthony Hector, Carl Falk, Rami Yacoub, Tijs Verwest, and Michael Zitron), "Red Lights"
Brian Wilson and Mike Love, "Help Me, Rhonda"

Popular Song

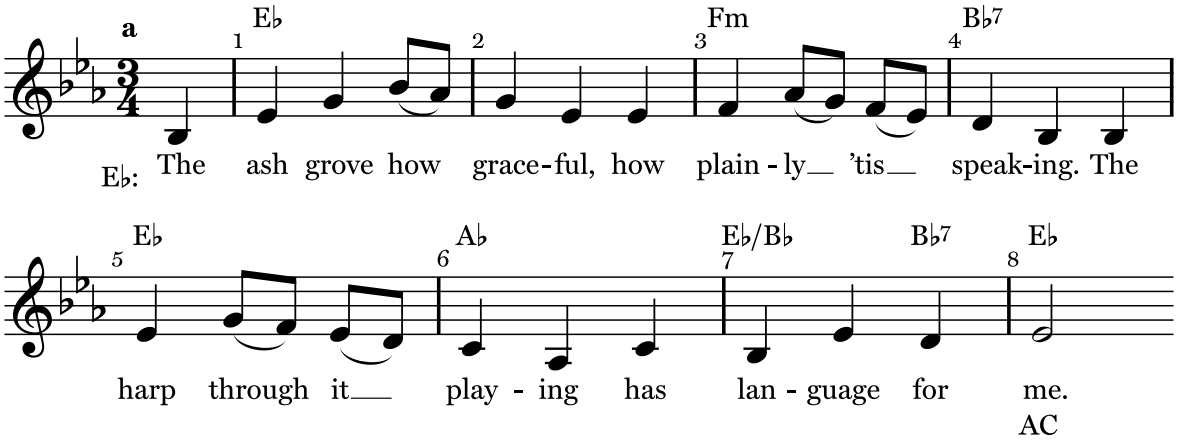
The popular song literature is expansive—from folk songs and parlor ballads of the late nineteenth century to Tin Pan Alley, Broadway show tunes, and the blues in the early twentieth, to ongoing adaptations of these tunes as "standards" by jazz musicians, to what we hear today. Rock and roll emerged mid-century to become a worldwide phenomenon, followed by progressive rock, punk, metal, hip-hop, rap, emo, indie, and myriad other genres. These newer styles draw on compositional elements of earlier twentieth-century popular songs, but also introduce new harmonic practices and musical forms, and they incorporate production techniques made available by the explosion of new technologies after 1945. While these repertoires share many characteristics with common-practice tonal music, there are also significant differences in the ways that scales and melody, rhythm and meter, harmony, and form are treated.

Quaternary and Verse-Refrain Forms

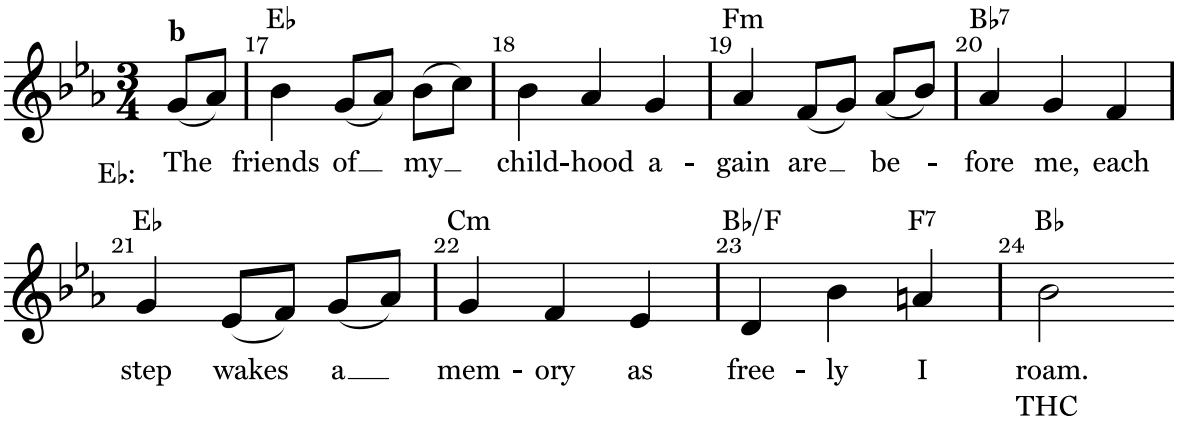
Listen to "The Ash Grove," a traditional Welsh folk song (anthology). The song begins with a repeated phrase (**a a**) that ends with an authentic cadence in measures 7–8 (Example 29.1a) and 15–16. In the following, contrasting phrase (**b**), shown in part (b), the contour is different, and it features a melodic sequence leading to a tonicized HC in measure 24. The opening melody then returns with the upbeat to measure 25, rounding out a four-part **a a b a** formal design.

EXAMPLE 29.1: "The Ash Grove"

(a) Mm. 1–8



(b) Mm. 17–24



A song with four phrases like this one is in **quaternary form**. Each phrase is typically four or eight measures long; if eight measures, the form may be referred to as **thirty-two-bar form**. The first two phrases often begin the same—they may be identical (**a a**) or may differ at the cadence (**a a′**)—and are followed by a contrasting section and a return to the opening material.

KEY CONCEPT In quaternary (**a a b a**) song form, the contrasting section (**b**) is known as the **bridge**. The bridge may

temporarily tonicize another key, and may end harmonically open (on a HC or with no cadence) to prepare the return of the **a** section.

Quaternary songs may also be written with other phrase designs, most often **a b a c**, with a contrasting period instead of a parallel one, and no bridge. Other possibilities are **a b c b** (or **b′**) and **a b c a** (or **a′**), where **c** is the bridge.

Try it #1

Write in the phrases (measure numbers and letters) for measures 1–32 of "The Ash Grove" on the graph below. Identify any period structures.

Show answers

Measures:	1-8			
Phrase letters:	**a**			
Period structures?				

Listen now to George Gershwin's "I Got Rhythm" (anthology). Gershwin was one of the most famous composers to come out of Tin Pan Alley—an area of midtown Manhattan so named because the dozens of pianos played in publishers' offices sounded like people banging on tin cans. The familiar part from which the song gets its title, "I Got Rhythm," doesn't appear until measure 29: this portion of the song is known as the **refrain**. The opening twenty-eight measures make up the **verse**, with the entire song form a **verse-refrain**.

Many songs from the first half of the twentieth century employ this two-part structure, similar to an opera's recitative and aria. The opening verse sets up the story; its harmonic structure may be less predictable than the refrain, and it may

modulate. The refrain, typically in quaternary form, includes the song's **hook** (usually the title idea, the most memorable part of the song), and it may be performed on its own, without the verse. In some songs, the verse is repeated two or more times, with the same music but different texts. The refrain, though, normally returns with the same music and text.

SUMMARY

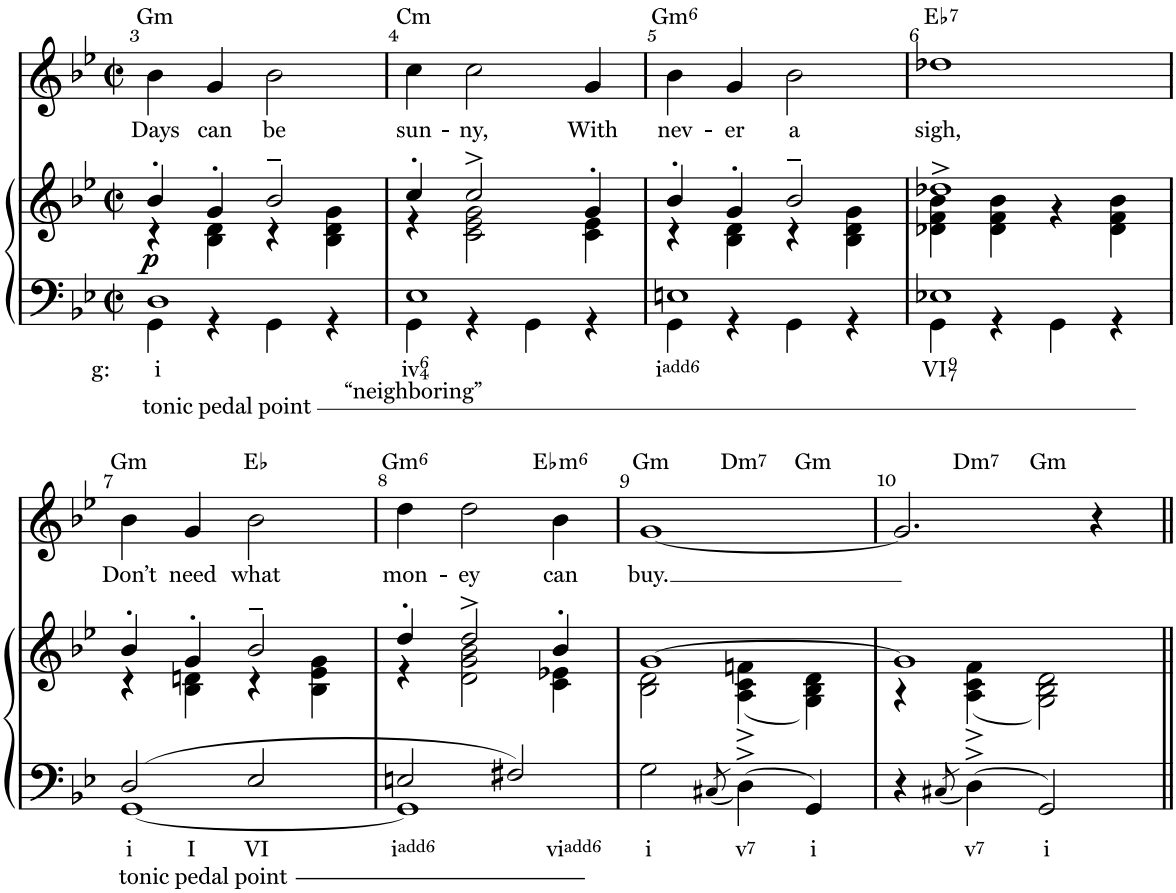
The design of a verse-refrain song generally follows this model:

verse: like a recitative, may modulate

refrain: like an aria, but **a a b a**

Harmonic Practices

The formal elements of early twentieth-century popular songs are not the only aspect that distinguishes them from their art-song predecessors: an expanded harmonic palette is another. For an example, listen again to measures 3–10 of Gershwin's verse (Example 29.2).

EXAMPLE 29.2: Gershwin, "I Got Rhythm," mm. 3–10

The first three measures express a common phrase opening, with a neighboring $\frac{6}{4}$ chord prolonging the tonic harmony $i^{5\text{-}6\text{-}5}_{3\text{-}4\text{-}3}$, yet the tonic harmony of measure 5 is "clouded" by an additional pitch, E♮3, a major sixth above the bass note. Pitches added to triads or seventh chords are sometimes called **extensions** (or "tensions" by jazz musicians). The sonority here is an **added-sixth chord** (its chord symbol could be Gm^{add6} or Gm^{+6}, as well as Gm^{6}). Don't confuse the numeral 6 with an inversion symbol—it would be a strange chord indeed if stacked in thirds above the E♮ "root," and it would not correctly identify the chord's tonic function. The next chord (m. 6) consists of E♭-G-B♭-D♭-F: a **ninth chord**, an E♭ dominant seventh chord plus a major ninth (F) above the root.

KEY CONCEPT In popular styles, major or minor

sevenths may be added to chords on almost any degree of the diatonic scale without changing the root, inversion, or function of the chord in the phrase. Any triad or seventh chord may be extended—the added sixth and the ninth are the two most common extensions. No matter what the quality of the underlying harmony, the added sixth is generally a major sixth, and the added ninth is usually a major ninth—except in the case of dominant seventh chords, where the ninth may be minor.

Analyze an added-sixth chord with its regular Roman numeral plus the label ^{add6} or $^{+6}$. For ninth chords, either use Roman numerals with figured-bass symbols (e.g., V^{9}_{7}) or chord symbols (E^{9}). In Example 29.2, measure 6, the chord symbol shows only the seventh, not the added ninth; think of the score as a transcription of an improvised performance, where ninths or sixths are added by the performer at will–chord symbols and score won't always match precisely. Finally, to identify chords with extensions, consider the bass line and progression: the bass line should make a logical harmonic progression that would be distorted if analyzed with "inversions" that incorporate the added notes. Chord symbols for these types of progressions are not standardized; Figure 29.1 lists some of the different ways they may appear.

FIGURE 29.1: Chord symbols and what they mean

Cmaj^{6}, Cma^{6}, CM^{6}, Cadd^{6}, CΔ^{6}, C^{6}:	C major triad + M6
Cmin^{6}, Cmi^{6}, Cm^{6}, C^{-6}, Cmadd^{6}, Cm^{+6}:	C minor triad + M6
Cmaj$^{9}_{6}$, Cma$^{9}_{6}$, CM$^{9}_{6}$, CΔ^{9}_{6}, C$^{9}_{6}$:	C major triad + M6 + M9
Cmin$^{9}_{6}$, Cmi$^{9}_{6}$, Cm$^{9}_{6}$, C-$^{9}_{6}$, c$^{9}_{6}$:	C minor triad + M6 + M9
Cmaj^{9}, Cma^{9}, CM^{9}, CΔ^{9}:	Cmaj7 + M9 (MM7 + M9)
Dmin^{9}, Dmi^{9}, Dm^{9}, d^{9}, d^{-9}:	Dm7 + M9 (mm7 + M9)
G^{7}($^{\flat 9}$):	G^{7} + m9 (Mm^{7} + m9)

^{9} ^{7} ^{7}

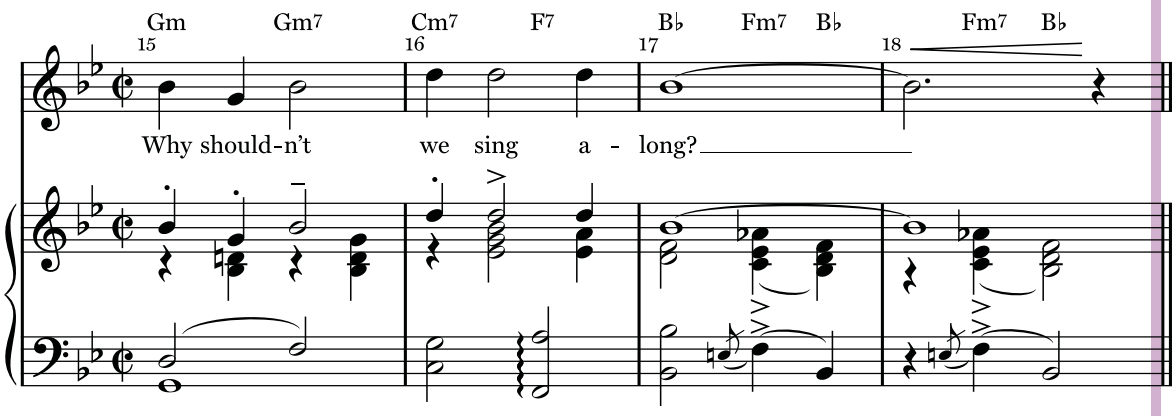
G9: G7 +M9 (Mm7 + M9)

Try it #2

Locate a ninth chord and an added-sixth chord (these are not indicated in the chord symbols) in the passage below. Below the staff, circle the measure and beat where you find them.

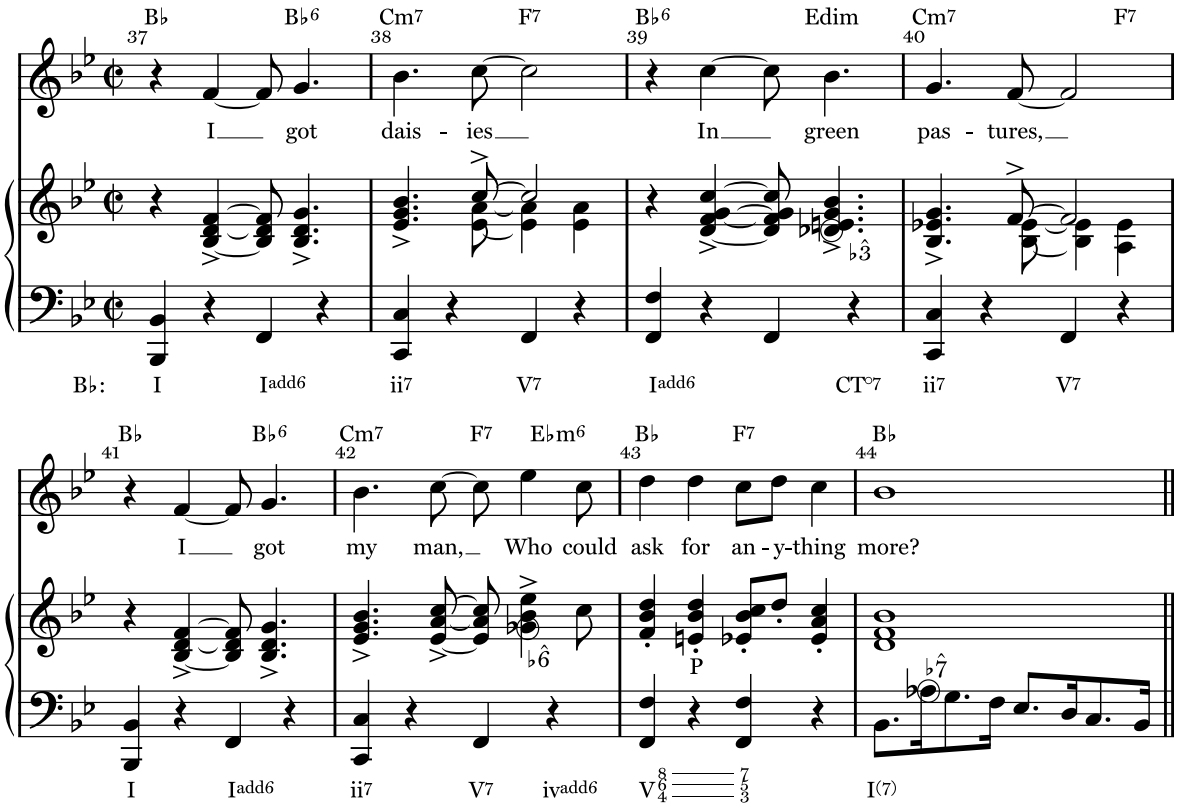
Gershwin, "I Got Rhythm," mm. 15–18

Show answers



	Measure				*Beat*			
Ninth chord:	15	16	17	18	1	&	2	&
Added-sixth chord:	15	16	17	18	1	&	2	&

Mixture chords appear often in popular songs, as in art songs, but some show tunes include types of mixture not common in the nineteenth century. In "I Got Rhythm," ♭$\hat{5}$ (D♭) is prominently featured at the end of the first vocal subphrase (Example 29.2, m. 6), coloring "sigh" and creating the minor seventh of the VI^{9}_{7}. Listen now to Example 29.3; consider whether each accidental is the product of modal mixture and what its effect is on the harmony.

EXAMPLE 29.3: Gershwin, "I Got Rhythm," mm. 37–44

B♭ B♭6 Cm7 F7 B♭6 Edim Cm7 F7
37 38 39 40
I got dais - ies In green pas - tures,
B♭: I I add6 ii7 V7 I add6 CT°7 ii7 V7
B♭ B♭6 Cm7 F7 E♭m6 B♭ F7 B♭
41 42 43 44
I got my man, Who could ask for an - y-thing more?
I I add6 ii7 V7 iv add6 V I(7)

Mixture notes are circled in measures 39, 42, and 44: the G♭ in 42 creates a minor subdominant, and the A♭ in 44 is a brief chordal embellishment (♭$\hat{7}$) that initiates the lead-in to the bridge. The E♮ in measure 39 is ♯$\hat{4}$; with the D♭ it creates a diminished seventh chord built on E. In common-practice style, diminished seventh chords on scale degrees other than $\hat{7}$ usually function as secondary diminished sevenths. We might expect a vii°7/V, where the E♮ resolves up to F and the D♭ down to C, but the chord does not resolve this way, and should therefore be considered a voice-leading chord (CT°7) without a Roman numeral.

KEY CONCEPT In popular styles, fully diminished and

half-diminished seventh sonorities may appear on any scale degree, and need not function as secondary diminished seventh chords.

Suspensions and Rhythmic Displacement

While suspensions that conform to common-practice voice-leading may be found in popular styles (for example, the 4–3 suspensions, B♭ to A, in mm. 40 and 43 of Example 29.3), we also sometimes find "4–3 suspensions" with no resolution: an added fourth above the bass displaces the third but never resolves. Such harmonies are called **sus chords** and labeled sus or sus4.

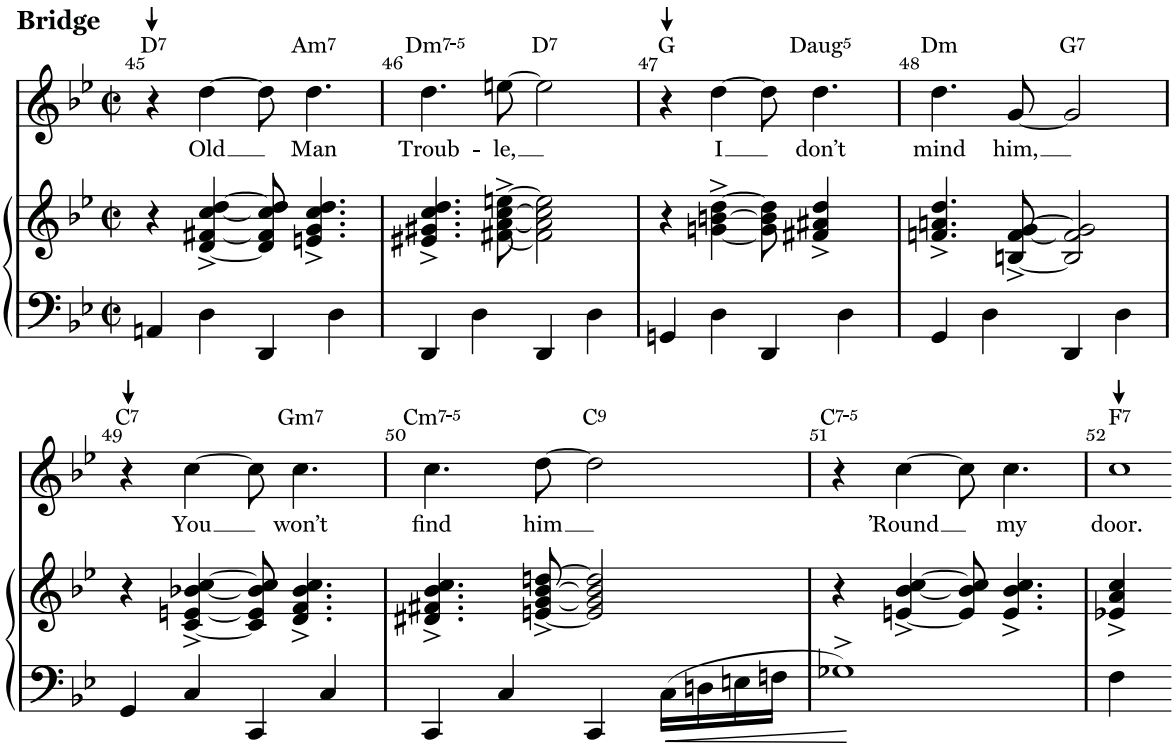
In addition, pitches may be "held over" like suspensions from one chord to the next, or "arrive early" before the rest of a harmony. Look at the first harmony of measure 39 in Example 29.3: the chord symbol implies a B♭ root, yet no B♭ is notated; instead, the C5 from the previous chord is held over across the bar, displacing the B♭, which returns at the end of the measure. Jazz soloists intuit these "missing" pitches; they know the notes will be supplied by bass or piano in the rhythm section (bass, drums, piano). Analyze chords with rhythmic displacement as though the chord tone were present, rather than including the displaced pitch (in m. 39, I^{add6}). Alternatively, you may hear the C as creating a ninth chord above the missing pitch—this implies an analysis of I^{9}_{7}. You may also find in some textbooks or lead sheets indications for eleventh or thirteenth chords. To interpret these chord symbols, simply add the specified interval (4 for an eleventh chord or 6 for a thirteenth chord) above the bass.

Altered Fifths and Tritone Substitutions

Listen now to a final excerpt from "I Got Rhythm," this one from the bridge (Example 29.4), focusing on the chromatic voice-leading in the lower notes of the right hand and the

chord quality.

EXAMPLE 29.4: Gershwin, "I Got Rhythm," mm. 45–52



The bridge begins with a D^7 and articulates a descending-fifth pattern: D^7–G(7)–C^7–F^7 (marked by arrows). In measure 45, the right hand's lower voices begin a chromatic ascent in parallel thirds, prolonging a ninth chord at the end of 46. In measure 47, the parallel thirds reach their high point and begin to *descend* chromatically. Gershwin's voice-leading results in two chords with altered fifths: the Dm^7 chord of measure 46 has its fifth lowered by a half step (shown as $Dm^{7\text{-}5}$), and the last sonority of 47 has its fifth raised by a half step ($Daug^5$). Triads and seventh chords with altered fifths are a familiar harmonic feature of popular song, and may also be found in common-practice music of the nineteenth century.

KEY CONCEPT Triads or seventh chords may be colored and intensified by lowering or raising the fifth of the chord by a half step, resulting in an augmented or diminished interval between the root and fifth.

When analyzing harmonies with altered fifths, add traditional symbols ($^{\circ 7}$ or $^{\varnothing 7}$) to Roman numerals for those that create diminished or half-diminished seventh sonorities. Major triads or dominant sevenths with raised fifths are labeled with Roman numeral plus $^{+5}$ or $^{\sharp 5}$, and lowered fifths with $^{-5}$ or $^{\flat 5}$ (alternatively, you may see "aug^{5}" or "dim^{5}" attached to chord symbols). They often function as secondary dominants (e.g., V$^{7\flat 5}$/IV).

Try it #3

Find two additional triads or seventh chords with altered fifths in measures 49–52 of Example 29.4. What are their chord qualities? What Roman numeral would you assign each harmony, assuming a B♭ tonic key?

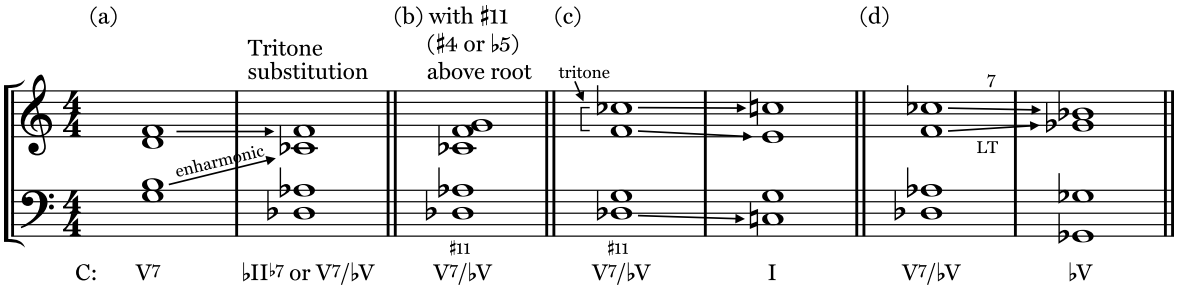
Show answers

	Measure	Quality	Roman numeral
(a)	_____	_____	_____
(b)	_____	_____	_____

In jazz performance, you will hear many types of chord alterations and substitutions; one example is the **tritone substitution** (or tritone sub), which replaces a V^{7} with a dominant-seventh-quality chord a tritone away (see Example 29.5a). The substitution is essentially a Neapolitan (♭II) with a minor seventh, but in jazz practice it is sometimes indicated by V^{7}/♭V. The tritone sub "works" because the essential ingredients of the original V^{7}—the leading tone and seventh (B and F in the example)—are present in the tritone sub, though

the leading tone may be enharmonically respelled as ♭î (here, C♭). It is also common to add a "sharp eleventh" (a ♯4 or ♭5 above the root of the V7/♭V) to the tritone sub, because that note (here, G) is the root of the original V7 it substitutes for (part b). The tritone sub may resolve the tritone as in the original V7—here, with C♭ to C♮ and F to E (part c)—which creates a double leading-tone effect (C♭–C♮ and D♭–C) similar to the resolution of augmented-sixth chords. Alternatively, it may resolve to ♭V (part d) to add harmonic interest (and any of these chords can add sevenths, ninths, or other extensions).

EXAMPLE 29.5: Tritone substitutions



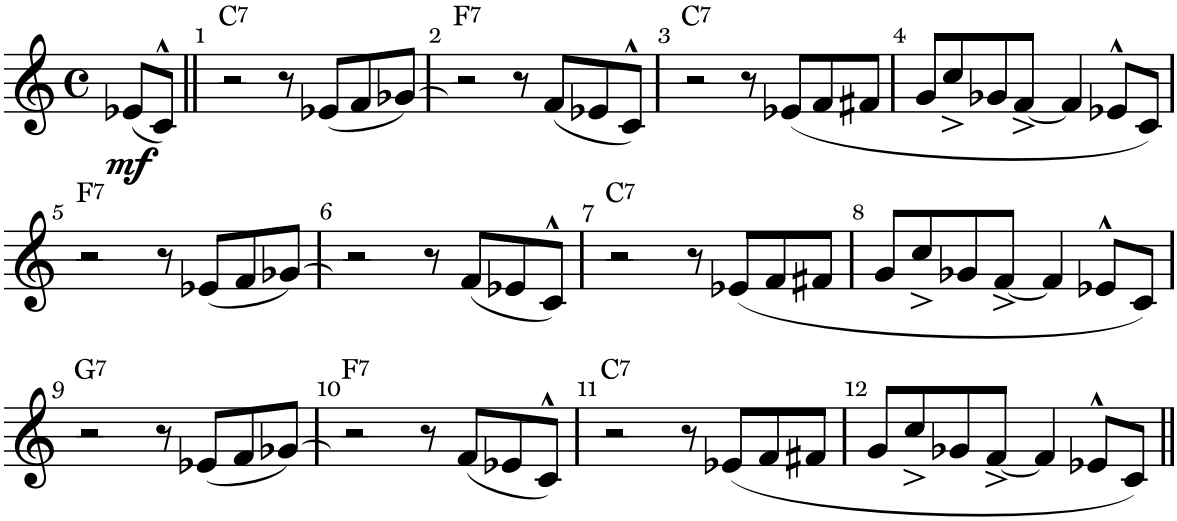
The Twelve-Bar Blues

Another early twentieth-century song style that has influenced subsequent popular music is a genre known as the **blues**. While this style originated in the Mississippi Delta among African American musicians, it spread worldwide; it was an essential influence on rock and roll in the 1950s, and continues to be a significant element of popular-song styles today. Blues songs normally feature a minor-sounding vocal melody, accompanied by chords in the parallel major key.

Pentatonic and Blues "Scales"

Listen to the beginning of Count Basie's "Splanky" while following Example 29.6, a transcription of the melody and chords.

EXAMPLE 29.6: Basie, "Splanky," mm. 1–12 (includes an introduction)

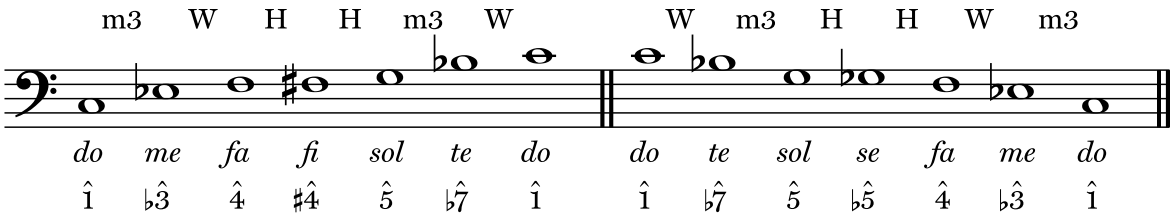


This melody has C as its tonic–evident from both the shape of the tune and the chord progression in C major–but it also includes ♭$\hat{3}$, lending it a minor quality, as well as ♯$\hat{4}$ or ♭$\hat{5}$ (the spelling is based on the direction the line is moving).

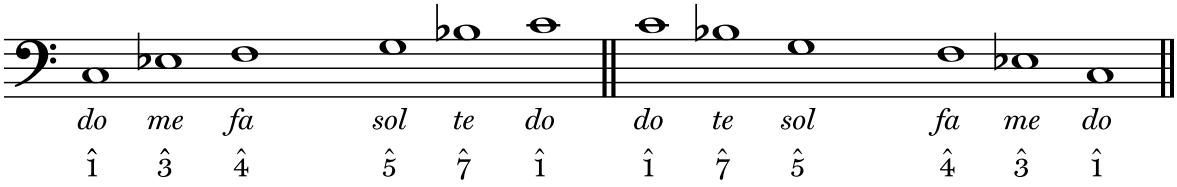
Example 29.7a shows the notes in "Splanky" written as a scale –the so-called **blues scale**–plus ♭$\hat{7}$, a note not played in this melody but heard as part of the C7 accompanying chord. Part (b) gives the C minor pentatonic ($\hat{1}$–♭$\hat{3}$–$\hat{4}$–$\hat{5}$–♭$\hat{7}$, or *do–me–fa–sol–te*) on which this scale is based: ♯$\hat{4}$ and/or ♭$\hat{5}$ is added to the minor pentatonic to make the blues scale.

EXAMPLE 29.7: Blues and minor pentatonic scales

(a) Blues scale on C


m3 W H H m3 W W m3 H H W m3
do me fa fi sol te do do te sol se fa me do
$\hat{1}$ ♭$\hat{3}$ $\hat{4}$ ♯$\hat{4}$ $\hat{5}$ ♭$\hat{7}$ $\hat{1}$ $\hat{1}$ ♭$\hat{7}$ $\hat{5}$ ♭$\hat{5}$ $\hat{4}$ ♭$\hat{3}$ $\hat{1}$

(b) C minor pentatonic



The blues scale is not a scale proper, but rather a collection of notes from which selections are made when improvising a melody. The ♭$\hat{3}$, ♭$\hat{7}$, and ♯$\hat{4}$ or ♭$\hat{5}$ are sometimes called **blue notes** because they lend a hint of sadness to the melodic line that

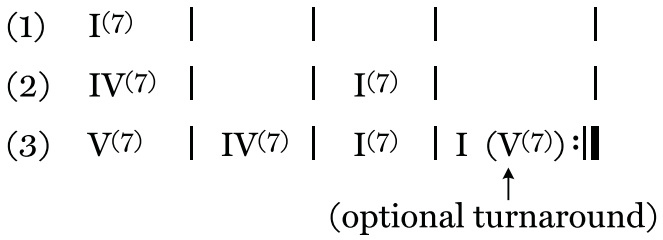
contrasts with the major-key accompaniment. When sung, and in instrumental performances where the player can vary the intonation, the blue notes on $\flat\hat{3}$ and $\flat\hat{7}$ may vary from $\hat{3}$ or $\hat{7}$ played a little flat to $\flat\hat{3}$ or $\flat\hat{7}$ played a little flat; the $\sharp\hat{4}$ or $\flat\hat{5}$ may sound anywhere between $\hat{4}$ and $\hat{5}$.

KEY CONCEPT In the blues style, the distinction between major and minor is blurred by contrasting $\flat\hat{3}$ and $\flat\hat{7}$ in the melody (sounds minor) with $\hat{3}$ and $\hat{7}$ in the accompanying chords (sounds major). Scale degrees $\sharp\hat{4}$ and $\flat\hat{5}$ may also appear in the melody to make a series of half steps between $\hat{4}$ and $\hat{5}$: $\hat{4}$–$\sharp\hat{4}$–$\hat{5}$ or $\hat{5}$–$\flat\hat{5}$–$\hat{4}$.

Blues Harmonic Progressions and Phrase Structure

One of the most recognizable aspects of blues compositions is a repeated harmonic progression in the accompaniment known as the **twelve-bar blue**s. The basic progression (Figure 29.2) consists of three subphrases, each four measures long: (1) four measures of tonic harmony, followed by (2) two measures of IV and two of I, then (3) V–IV–I–I. Minor sevenths may be added to any of these chords to make a dominant seventh quality, as in "Splanky" (Example 29.6). The last measure may end on the tonic or serve as a "turnaround," a V^7 leading back to the beginning and a repeat of the progression. These harmonies, as well as other harmonic progressions in jazz or popular styles, are often referred to as **changes**, short for "chord changes."

FIGURE 29.2: Twelve-bar blues progression



In blues-style songs, the phrases of the vocal part usually conform to those of the harmonic progression, with one subphrase every four measures and the only conclusive close when the tonic returns in measures 11–12. The texts may describe hard times, lost love, or other sorrows, expressed in simple colloquial language that may take on added meaning through metaphor. The first two subphrases (mm. 1–4 and 5–8) normally present a "problem," with the third offering a consequence of that problem, as in "Hound Dog" as sung by Willie Mae "Big Mama" Thornton. In Big Mama's performance, it is clear that this "hound dog" is two-legged rather than four-legged.

You ain't nothin' but a hound dog,
Been snoopin' round my door.
You ain't nothin' but a hound dog,
Been snoopin' round my door.
You can wag your tail,
But I ain't gonna feed you no more.

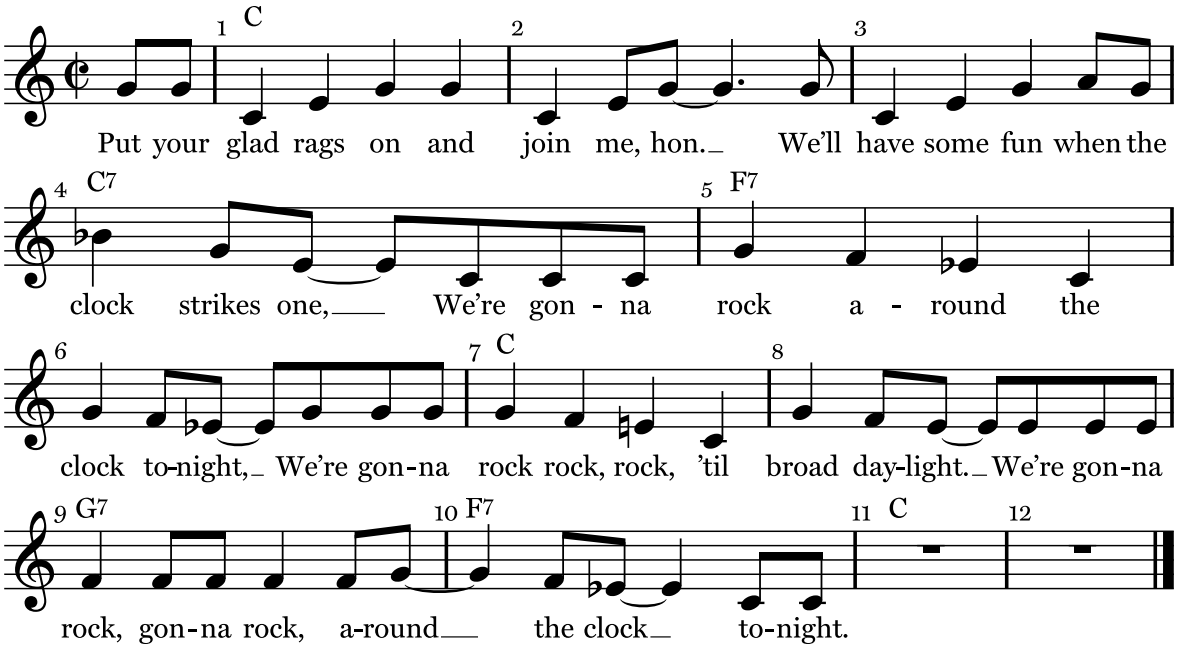
In Elvis Presley's version, however, the lyrics are changed to make the meaning ambiguous (see the "Did You Know?" box for more details). This example and others in this chapter are available online; listen to them while reading the discussions.

In a performance of "Hound Dog," "Splanky," or any other blues tune, two or more presentations of the melody (with text, if sung) and harmonies are followed by additional repetitions of the harmonic progression with improvised instrumental solos over it. After these improvisations, the original melody returns.

In jazz settings, the clearly recognizable melody—whether sung or instrumental—is called the **head**. This practice of playing solos in the middle of a performance, showcasing members of the ensemble, is a common feature in jazz and post-1950s popular music as well (where the solo instrument is usually lead guitar), whether the music is based on the blues progression, a quaternary song form, or some other form.

The twelve-bar blues progression, adopted by rock musicians in the 1950s, appears in songs of various styles after that time—one such song is "Rock Around the Clock" (Example 29.8).

EXAMPLE 29.8: Myers and Freedman, "Rock Around the Clock"


1 C
2
3
Put your glad rags on and join me, hon. We'll have some fun when the
4 C7
5 F7
clock strikes one, We're gon - na rock a - round the
6
7 C
8
clock to-night, We're gon-na rock rock, rock, 'til broad day-light. We're gon-na
9 G7
10 F7
11 C
12
rock, gon-na rock, a-round the clock to-night.

Try it #4

Play through the progression in Example 29.8 in block chords while singing the melody.

Show answers

(a) Does this blues progression include a turnaround? yes no

(b) Blue notes appear in mm. _____, _____, _____ _____.

Listen to various performances online to hear where singers place blue notes and where there are turnarounds.

Post-1950 Popular Song

New Elements of Form

After 1950, the terminology for labeling sections of songs shifted. **Verse** came to designate a musical section that might appear in a song multiple times with the same music but different words. A verse may be based on quaternary or twelve-bar blues design, or may follow some other formal plan. It normally carries the story line for the song. **Chorus** refers to a section of music that is repeated, each time with the same (or a similar) text. The chorus often includes the song's hook (the most memorable part).

Many popular songs from the 1950s and 1960s are made of only these two elements. A song with only verses is in **simple verse form** (a comparable art song would be called strophic). Examples include Elvis Presley's "Heartbreak Hotel" (six repetitions of the verse; the fifth is instrumental), Bob Dylan's "Blowin' in the Wind," and "Baby Love" by the Supremes (Figure 29.3). The hook for this song, "Baby love," appears in various places in the verse.

FIGURE 29.3: Simple verse form in "Baby Love"

Intro:	"Ooh, ooh-hoo" (4 measures in)
Verse 1:	"Baby love … I need you, oh how I need you …" (12 measures)
Verse 2:	"'Cause baby love … been missing ya, miss kissing ya …" (12 measures)
Verse 3:	"Need ya … Baby love …" (12 measures; 4 vocal + 8 instrumental)
Verse 4:	"Baby love … why must we separate …" (12 measures) (modulates up a whole st measures like intro, "Ooh, ooh")
Verse 5:	"Need to hold you …" (12 measures)
Verse 6:	"Me my love … I need ya." (12 measures)
Verse 7:	"Till it's hurtin' me … don't throw our love away." (partial verse with fade-out)

Songs that alternate verse and chorus are in **verse-chorus form**: both verse and chorus may be sung to the same or similar music (**simple verse-chorus**), or to different music (**contrasting verse-chorus**). An example of simple verse-chorus is Little Richard's "Tutti Frutti"–both verses ("Got a girl named …") and the chorus ("Tutti-frutti, oh Rudy") are sung to the same music. Chuck Berry's "Rock and Roll Music," Deep Purple's "Smoke on the Water," and the Beach Boys' "Help Me, Rhonda," whose form is outlined below, are contrasting verse-chorus.

FIGURE 29.4: Contrasting verse-chorus form in "Help Me, Rhonda"

Verse 1:	"Since she put me down …" (16 measures)
Chorus:	"Help me, Rhonda …" (16 measures)
Verse 2:	"She was gonna be my wife …" (16 measures)
Chorus:	"Help me, Rhonda …" (16 measures)
Verse 3:	Instrumental (16 measures)
Chorus:	"Help me, Rhonda" (6 measures + 2 instrumentals to fade)

In post-1950 popular music, **refrain** refers to a line or pair of lines that normally appear at the end of each verse with the same music and words. A familiar example is the line "All the lonely people …" that ends each verse of the Beatles song "Eleanor Rigby." The refrain differs from a chorus in that it is not a full-length independent section but rather a repeated line that completes the verse. Occasionally a refrain will appear on its own without being a part of the verse, but it remains only one or two lines long–shorter than a chorus normally would be.

SUMMARY

- Verse: the same music reappears later in the song with different text(s).
- Chorus: the same music reappears later in the

song with the same text.

- Refrain: one- or two-line text at the end of the verse that reappears with the same music.
- Simple verse form: a song with only verses (no chorus or other sections).
- Verse-chorus: a song that alternates verses and choruses.
- Simple verse-chorus: both verse and chorus are sung to the same music.
- Contrasting verse-chorus: verse and chorus have different music.

In "Rock Around the Clock," the music shown in Example 29.8 serves as the main harmonic-melodic material for the entire song. The music to measures 1–4 reappears with different words in other verses ("When the clock strikes two, three and four, if the band slows down we'll yell for more"), but the words and music of 4–10 are consistently the same throughout the song (a refrain). This entire example is based on the twelve-bar blues progression, and the thought expressed in the text is not concluded until the end of the harmonic progression. Both "Rock Around the Clock" and "Eleanor Rigby" are in simple verse form.

"Rock Around the Clock" begins, as do many popular songs, with an eight-measure introduction (intro), to the words "One, two, three o'clock, four o'clock, rock ..." An introduction is usually instrumental, but may also include text, as does this one, or a repeated syllable like "Oh" or "Ooh" (as in "Baby Love"). It may be based on music later associated with the verse or chorus, or on a chord progression or a **riff** (a repeated instrumental motive); sometimes the intro fades in, or instruments may join in to build up the sound for the entry of the main part of the song. In this song, an instrumental

accompaniment entering after the introduction establishes the "groove."

KEY CONCEPT The underlying rhythmic "feel" of a performance, created by a recurring pattern of pitch and rhythmic elements (performed by the rhythm section; in rock—drums, electric or double bass, guitar, and keyboards), is called its **groove**. The groove encourages listeners to engage with the music by dancing, tapping their feet, or bobbing their heads, and helps establish the style or genre to which the piece belongs.

Many songs also end with music known as an "outro," or coda, often instrumental. The outro may fade out, or it may repeat the hook. For example, the last verse in "Baby Love" serves as an outro—it is incomplete, repeats the hook, and fades out—while "Help Me, Rhonda" has an instrumental outro that fades out. The length of the intro and outro (their proportion relative to the rest of the song) and their content can be a marker of a particular group's or musician's style. The term "coda" is more likely to be used if it follows the last substantial cadence of the song, as in common-practice music.

An instrumental section in the middle of a song from the 1960s until the 1990s is referred to as an **instrumental break** (if several instruments are featured) or a **solo break** (one instrument); the term "break" is used somewhat differently in later popular songs. Instrumental breaks may be based on the melody and chord progression of the verse and/or chorus (as in "Rock Around the Clock" as performed by Bill Haley and the Comets) or may include improvisation over a harmonic progression only. In hip-hop or rap songs, a "rap break"—a passage with a rhythmic spoken solo, usually accompanied by background instruments—may substitute for the verse (or chorus). Some songs include an **instrumental interlude**, a passage with new music that serves as a transition between or

change of pace from other sections. A short instrumental link may be used to connect two musical sections.

KEY CONCEPT Beginning in the mid-1960s, **bridge** came to refer to a section of music with text that contrasts with the verse and/or chorus. The bridge in songs up to the 1990s usually appears only once, and serves to heighten anticipation of the return of the verse or chorus.

For an example, consider "You've Got a Friend," a Grammy-winning song written by Carole King in 1971, and popularized by James Taylor. (Listen to either performance online.)

FIGURE 29.5: Form in "You've Got a Friend"

Intro		
A	Verse 1:	"When you're down and troubled …"
	Chorus:	"You just call … "
A′	Verse 2:	"If the sky above you …"
	Chorus:	"You just call …"
B	Bridge:	"Now ain't it good to know …"
A″	Chorus:	"You just call …"
Outro		

The verse and chorus in this song appear together, forming a larger section **A**; with the bridge as section **B**, this makes what is called a composite (or compound) **A A′ B A″** design, replicating the phrase design of the quaternary song form at a higher level. In these designs, the **B** section is usually not as long as the **A** sections, and in the final return of **A** (as **A″**) the chorus may appear alone and may be repeated, instead of the verse-chorus pairing of previous **A** sections.

KEY CONCEPT Small sections of a popular song that always appear together can be considered to form a larger formal section at a higher hierarchical level, making a composite (or compound) **A A′ B A″** or **A B A′** . **A** sections consisting of a verse and chorus and **B** representing the bridge are common, but other designs are possible as well.

In songs where the verse and chorus are strongly contrasting, or where the verse ends without harmonic closure, there may be a **prechorus**: a short passage of music with text that comes between the verse and the chorus. "City of Blinding Lights" by U2 illustrates this element. The song opens with two verses ("The more you see the less you know …" and "Neon heart dayglo eyes …"), followed by a prechorus ("And I miss you when you are not around …") and then the chorus ("Oh … Oh you look so beautiful tonight …"). Following the chorus there may be a **postchorus**, a short passage of music preparing for the return of the verse. The prechorus and postchorus are most often encountered in post-millennial popular music, where many small sections may combine to form larger ones.

SUMMARY

- Bridge: music with text that contrasts with the verse and chorus, usually appearing once in the song to prepare a final return of the chorus or verse.
- Prechorus: short passage of music between the verse and the chorus.
- Postchorus: short passage of music between the chorus and the verse.
- Instrumental break: a section in the middle of a song (usually based on one of its harmonic progressions) played only by instruments.

- Instrumental interlude: a passage with new music connecting other sections of a song.

Katy Perry's chart-topping song from 2013 "Roar" provides an example of most of these formal elements—intro, verse, chorus, prechorus, postchorus, and bridge (see Figure 29.6). Here, the repeated text plays a role in distinguishing the sections: the prechorus has the same text each time it returns, which differentiates it from the verse; and the postchorus also features the same text each time, distinguishing it from the chorus.

FIGURE 29.6: Form in "Roar"

Intro			(2 measures; 4 mm. in video version)
A	Verse 1:	"I used to bite my tongue …"	(4 measures)
	Verse 2:	"I guess that I forgot …"	(4 measures)
	Prechorus:	"You held me down …"	(4 + 4, for 8 measures *)
	Chorus:	"I got the eye … [refrain]"	(8 measures *)
	Postchorus:	"Oh oh oh … [refrain]"	(5 measures *)
A′	Verse 3:	"Now I'm floating …"	(4 measures)
	Prechorus:	"You held me down …"	(4 + 4, for 8 measures *)
	Chorus:	"I got the eye … [refrain]"	(8 measures *)
	Postchorus:	"Oh oh oh … [refrain]"	(5 measures *)
B	Bridge:	(instrumental, then) "Roar-oar …"	(3 + 4, for 7 measures)
A″	Chorus:	"I got the eye …[refrain]"	(8 measures)
	Postchorus:	"Oh oh oh … [refrain]"	(9 measures; extension!)
			*ambiguous phrase boundary

These extra sections in post-millennial songs contribute to a feeling of shifting levels of intensity and energy: in this track, the prechorus between the verse and chorus builds anticipation of the chorus; likewise, though at the same volume

as the chorus, the repeated “Oh oh oh” of the postchorus releases some of the intensity. Both the chorus and prechorus end with the refrain line “You’re gonna hear me roar!,” the hook of the song.

While almost the entire song is set over repeating four-measure patterns, the vocal line sometimes enters after the downbeat (as in the verses) but other times enters with an anacrusis to the downbeat (as in the prechorus and chorus). The shifting of the entry relative to the strong downbeat of each measure corresponds to the assertiveness of the text, with the longest anacrusis on “I got the eye …” (chorus). Since phrase and section lengths in popular songs tend to be regular, any irregularities or ambiguities like these draw our attention and may signal significant locations in the form.

The bridge, substantially different from the rest of the song, provides a **build** (an increase in intensity in anticipation of the chorus), with the instruments cutting out to signal the **drop** (the return of the drums and full texture in the final chorus). As the chart shows, the smaller sections combine to create a composite form: another **A A′ B A″**. In older sectional forms, we would expect the lengths of the **A** sections to be the same or, as in rounded binary, **A′** to be about half the length of **A**; in songs like this one, however, the large sections tend to become progressively shorter. Also, the **A′** and **A″** sections add layers of musical texture (vocal overdubbing and enriched instrumental parts) each time the chorus and postchorus return.

Since recent popular music typically appears first in a recorded format, for some songs discussed here we have determined the duration of various sections by listening to the recording and counting measures. Scores may be available, but they are often fraught with errors created in the transcription process or may be targeted to a particular audience (such as “easy piano”). Recent pieces, in particular, also depend on specific production and recording techniques to produce their

trademark sounds, and many timbral, textural, and temporal effects cannot be represented accurately in standard notation. Researchers can, however, study the **waveform** of a song using sound-processing software (such as the free Audacity program), as shown in Figure 29.7: the waveform for Tiësto's "Red Lights."

FIGURE 29.7: Waveform graph (made using Audacity) for Tiësto, "Red Lights"

When a song is loaded into a program like this one, there are several advantages for the analyst:

- it is possible to listen to the song with a counter that tracks where events enter (even down to the millisecond, if desired) and replay from any point;
- the display shows the waveform for both tracks of a stereo song like this one, and allows each to be heard separately from the other;
- and often the waveform clearly illustrates where there are section divisions.

Listen to this song as you follow the timings in Figure 29.8 below (the measures were determined by conducting along and counting). The refrain "We're gonna run them red lights" appears at the end of each prechorus and instrumental chorus, providing a sense of closure to those sections. Refer also to the waveform image above to locate each section.

FIGURE 29.8: Form in "Red Lights"

Intro	(0:00 to 0:08; 4 measures)
Verse 1: "Blacked out …"	(0:08 to 0:23; 8 measures)
Verse 2: "So let's break …"	(0:23 to 0:40; 8 measures)
Prechorus 1: "Nobody else … [refrain]"	(0:40 to 0:55; 8 measures)
Prechorus 2: "There ain't no … [refrain]"	(0:55 to 1:09; 7 measures *)
Build to chorus (instrumental) (refrain)	(1:09 to 1:24; 8 measures)
Silence (less than a second)	(1:24)
Chorus: instrumental, ending with refrain	(1:25 to 1:40; 8 measures, 4 + 4)
Instrumental interlude (like intro)	(1:40 to 1:44; 2 measures)
Verse 3: "White lights …"	(1:44 to 1:58; 8 measures)
Verse 4: "We can't back …"	(1:58 to 2:15; 9 measures)
Prechorus 1: "Nobody else … [refrain]"	(2:15 to 2:31; 8 measures *)
Prechorus 2: "There ain't no … [refrain]"	(2:31 to 2:45; 7 measures *)
Build to chorus (instrumental) (refrain)	(2:45 to 3:00; 8 measures)
Silence (less than a second)	(3:00)
Chorus varied, with refrain	(3:00 to 3:16; 8 measures)
Instrumental interlude (different one)	(3:16 to 3:31; 8 measures)
Build to chorus (instrumental; new)	(3:31 to 3:46; 8 measures)
Silence (less than a second)	(3:46)
Chorus, with refrain	(3:46 to 4:18; 16 measures, 4 + 4 + 4 + 4)
(Echo on fade-out)	*ambiguous phrase boundary

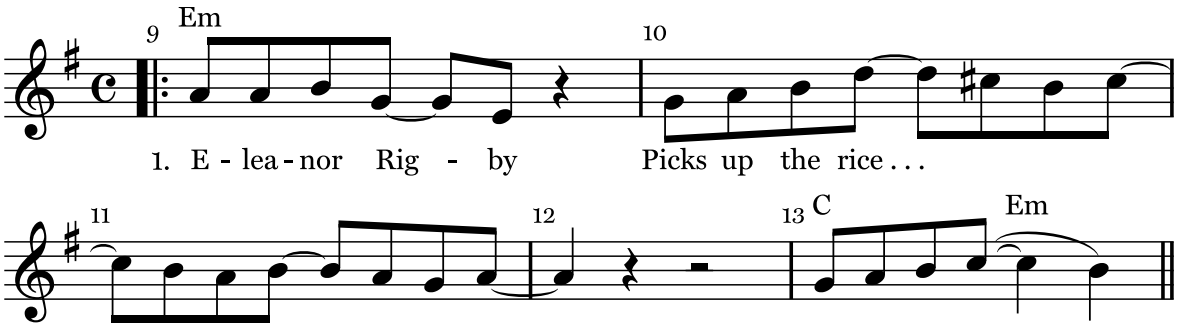
One element of the song that is obvious on the waveform graph is the brief silence that precedes the entrance of the chorus, which looks like a white vertical line drawn through the shading; this represents the end of the build and signals the coming of the drop (the return of the drums and full texture in the chorus).

Harmony and Melody

Many popular songs written after 1950 continue to follow the harmonic conventions of earlier tonal music—the basic phrase progression and principles of voice-leading—though they may include chord extensions, mode mixture, sus chords, added sixths, secondary dominants, and other chromatic harmonies. In some songs, common-practice voice-leading has been replaced by chord connections that are easier to make on a guitar fretboard. With electric guitars, new types of chord voicing and doubling came into use—including **power chords**, with only root and fifth (no third, which leaves its quality ambiguous). When combined with amplification and distortion and played in the middle register of the guitar, power chords generate overtones that increase the volume and richness of the sound. They are usually connected by shifting the hand in a parallel motion, rather than by traditional voice-leading.

For songs clearly in a major or minor key that follow basic phrase progressions, we can provide a Roman numeral and contextual analysis (T–PD–D–T), even though the voice-leading may not follow earlier practice. Songs based on the twelve-bar blues progression can be labeled with either chord symbols or Roman numerals, though a contextual analysis will not conform to the basic phrase design because of the V–IV–I progression in the last four bars and the underlying pentatonic framework. And while some songs include common-practice cadence types —PAC, IAC, and HC—others may feature melodic units with no standard harmonic or melodic cadence. For an example, look at the opening of the verse of "Eleanor Rigby" (Example 29.9); the five measures that follow this example have the same melody and harmonies.

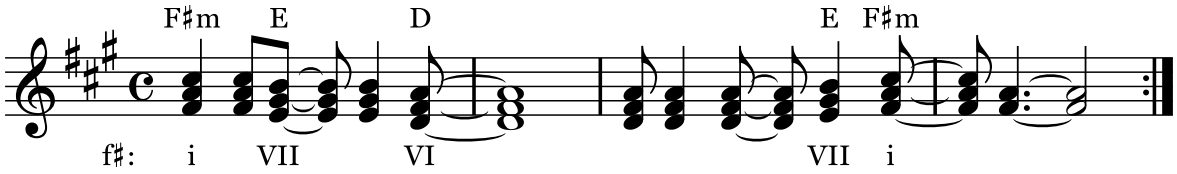
EXAMPLE 29.9: Lennon and McCartney, "Eleanor Rigby," mm. 9–13

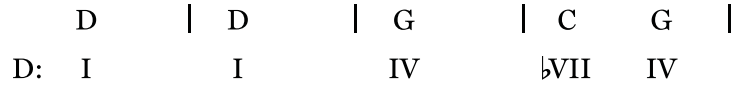


These five-measure groupings constitute a melodic thought, but neither the melody nor harmonies follow a traditional progression–the chords are Em to C (is this e: i–VI?). The introduction to the song starts with a C major triad, but then moves to Em and back again (is this C: I–iii?). The refrain ("All the lonely people") is also based on Em and C, and the song ends on an E minor triad, with the melody on the third (G) of the chord. In deviating from a common-practice progression, the harmonies reflect the loneliness and the repetitive life of the characters described in the lyrics. When analyzing popular songs, such as this one, don't be surprised to find progressions that are not based on the basic-phrase progressions–instead consider what chords are being used, how they are connected, and what their possible relation might be to the lyrics.

Other options explored in post-1950 popular styles include progressions derived from the major and minor pentatonic scales and modal scales. The minor pentatonic can generate root progressions that include the triads I (or i), ♭III, IV, V, or ♭VII in various combinations, as in Example 29.10.

EXAMPLE 29.10: Examples of progressions from the minor pentatonic

(a) Robinson, "Turn the Beat Around" (chorus)

(b) Mercury (Queen), “Crazy Little Thing Called Love” (repeated figure throughout song)



(c) “Crazy Little Thing Called Love” (refrain)

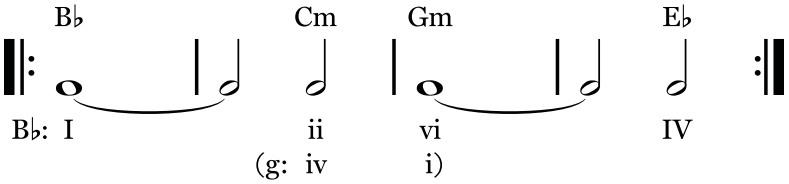
The progression in Example 29.10c is sometimes referred to as the Aeolian cadence—whether in a major or minor context—as it is associated with folk-music chord progressions in that mode. The final two chords of part (c), ♭VII (subtonic) to I, are also associated with folk music based on the Mixolydian mode. The subtonic in these cases can be considered a dominant substitute, leading to the cadential tonic.

Other progressions, such as I–♭VII–♭VI–V, follow a bass line familiar from Handel’s G Major Chaconne—a descending minor tetrachord—but the chords may now be connected with parallel motion that was not typical of the earlier style. While these chords may be identified with Roman numerals, the progressions may have little or no resemblance to common-practice voice-leading—instead, the Roman numerals simply represent the motion between roots. Chord symbols may be used instead, especially if there is no clear sense of which chord is the tonic.

Sometimes a section (or even an entire song) may be based on the alternation of two chords, as in the introduction to Jim Croce’s “Bad, Bad Leroy Brown”; theorist Phillip Tagg refers to

this alternation as a **shuttle**. Three or more chords repeated in the same sequence and harmonic rhythm constitute a **loop** (a term that can apply both to a repeated chord progression without any cadence, and to "tape" loops, a segment of electronic music that repeats). Listen again to "Roar" while following Figure 29.9, which lists the chords of the harmonic loop and duration of each. This progression, which is repeated throughout the song except for the bridge, is harmonically ambiguous as to function, though it is certainly possible to identify a tonic and provide Roman numerals for the chords. It has an added feature of including two IV–I progressions, if the Cm–Gm is considered iv–i in G minor; in any case, those chords lend a strong minor presence in the middle of the loop.

FIGURE 29.9: "Roar" harmonic loop



"Red Lights" features both harmonic loops and "tape" loops–repeated segments made from synthesized sounds–that are four measures long (throughout most of the song; see Figure 29.10).

FIGURE 29.10: "Red Lights" harmonic loop

Guitar chords in score:	Gm7	E♭6/9	B♭	Dm/A
B♭:	vi7	V	I	iii
Over the bass line:	G	E♭	B♭	A
Before vocals, sounds like g:	i7	VII	III	v

Though the vocals express B♭ major, the accompaniment at the

beginning sounds more like G minor (i^7–VII–III–v)—a contradiction that is fairly common in popular styles, sometimes referred to as the "melodic-harmonic divorce."

The chord progressions explored in the rock era (post-1950) are rich and varied—to study them in the same detail as we have the progressions of Baroque, Classical, and Romantic music would require as many pages as have been devoted to those styles. For now, listen with an open mind—don't expect the progressions to follow earlier norms. When you encounter a progression you like, analyze it: What are the chords? How do they connect? How are they used in this song? And how do they relate to the meaning of the song's lyrics or to its style?

Did You Know?

The 1956 remake of "Hound Dog" by Elvis Presley is the best-known version of the song; it ranked as #19 on *Rolling Stone*'s list of "500 Greatest Songs of All Time" and is heard in several movie soundtracks, including *Forrest Gump*, *Lilo & Stitch*, and *Indiana Jones and the Kingdom of the Crystal Skull*. The original version, written by Jerry Leiber and Mike Stoller, was recorded in 1952 by Willie Mae "Big Mama" Thornton, and the following year held the #1 spot on the Billboard Rhythm and Blues charts for seven weeks. Like many songs achieving popularity on the R&B charts (which at that time were intended for a primarily African American audience), "Hound Dog" was released in cover versions almost immediately by various country singers. A version with the revised lyrics used by Presley—"snoopin' round my door" was replaced with "cryin' all the time," and "You can wag your tail, but I ain't gonna feed you no more" was replaced by "You ain't never caught a rabbit, and you ain't no friend of mine"—by Freddie Bell and the Bellboys, was intended to appeal to a broader radio audience by removing

the sexual innuendo typical of blues songs. “Hound Dog” (with both sets of lyrics) has since been covered by artists performing in a variety of styles, including Jimi Hendrix, Jerry Lee Lewis, John Lennon, the Rolling Stones, Eric Clapton, Jeff Beck, and James Taylor.

TERMS YOU SHOULD KNOW

added-sixth chord
altered fifth
Aeolian cadence
blue notes
blues scale
bridge
break
build
changes
chorus
drop
extensions
groove
head
hook
instrumental break
instrumental interlude
intro
link
loop
ninth chord
outro
prechorus
postchorus
power chords
quaternary song form
rap break
refrain
riff
shuttle

simple verse form
thirty-two-bar song chorus
tritone substitution (sub)
twelve-bar blues
verse
verse-chorus form
verse-refrain form

QUESTIONS FOR REVIEW

1. What are some phrase designs found in early twentieth-century popular songs?
2. What added notes might you find in the chords used to harmonize early twentieth-century popular songs?
3. Which scale degrees may be altered to create blue notes?
4. When jazz combos play a jazz standard, how do solos alternate with ensemble playing, and improvised music with notated music?
5. What changes have taken place in the use of the terms "verse," "refrain," and "chorus"?
6. What other formal designs are found in post-1950 song settings?
7. What new sections have been added in post-millennial popular music? How do they combine to create larger formal sections?
8. Find a piece with added notes in chords, altered fifths, or blue-note alterations. (Hint: Look in music by jazz composers or those who have been influenced by jazz.)

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30 Chromatic Harmony and Voice-Leading

Outline

Chromatic elaboration of diatonic frameworks

- Chromatic sequence patterns
- Descending chromatic bass lines
- Chromatic voice exchanges and wedge progressions
- Common-tone diminished seventh and augmented-sixth chords
- The raised chordal fifth

Chromatic mediant relations

Overview

In this chapter, we consider harmonies and voice-leading characteristic of Romantic-era chromaticism, and learn how to write chromatic progressions by embellishing familiar diatonic ones.

Repertoire

Brahms, Intermezzo in A Major, Op. 118, No. 2
Gabriel Fauré, “Après un rêve” (“After a Dream”)

George Frideric Handel, Chaconne in G Major

Fanny Mendelssohn Hensel, “Neue Liebe, neues Leben” (“New Love, New Life”)

Jerome Kern and Otto Harbach, “Smoke Gets in Your Eyes,” from *Roberta*

Wolfgang Amadeus Mozart, String Quartet in D Minor, K. 421, mvt. 3

Franz Schubert

“Am Meer” (“By the Sea”), from *Schwanengesang* (*Swan Song*)

“Der Wegweiser” (“The Sign Post”), from *Winterreise* (*Winter Journey*)

Robert Schumann, “Ich grolle nicht” (“I Bear No Grudge”), from *Dichterliebe* (*The Poet’s Love*)

Hugo Wolf, “In dem Schatten meiner Locken” (“In the Shadow of My Tresses”), from *Spanisches Liederbuch* (*Spanish Songbook*)

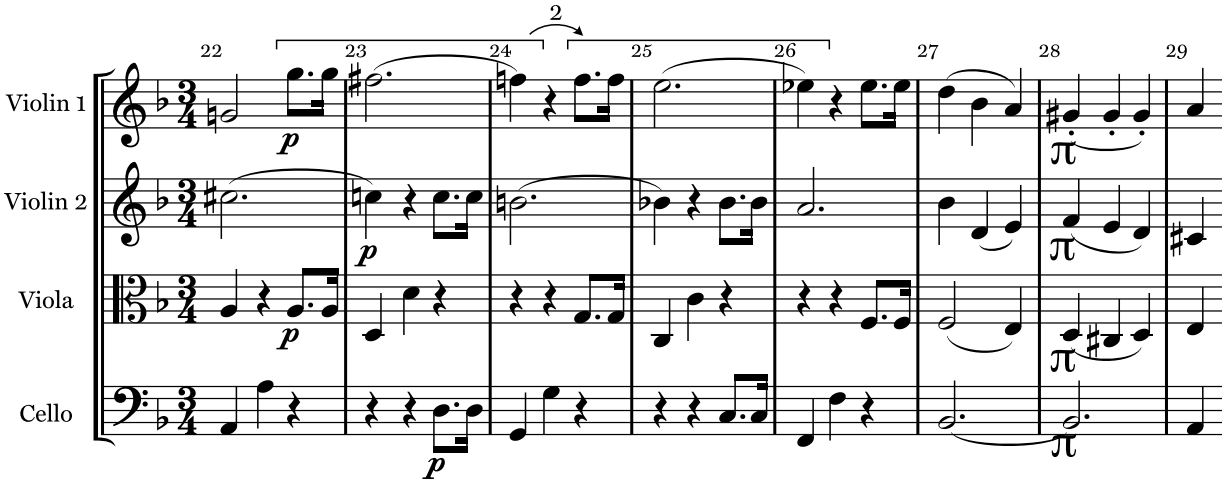
Chromatic Elaboration of Diatonic Frameworks

Chromatic Sequence Patterns

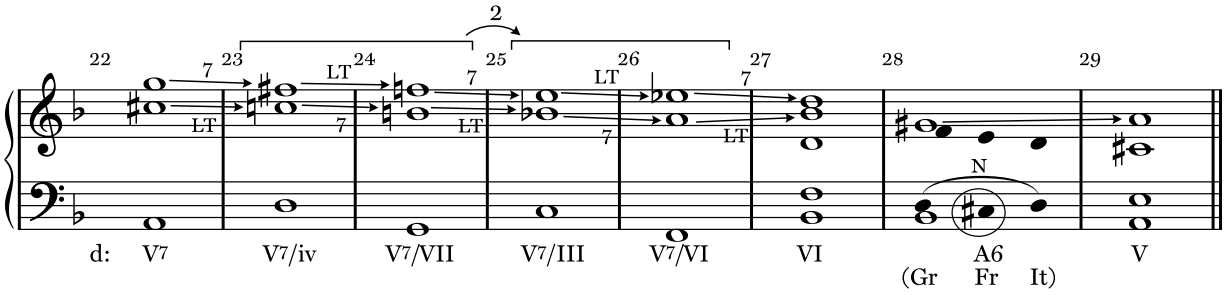
As we have seen, the most ubiquitous sequences in tonal music are descending-fifth sequences, which provide a fertile source for chromaticism. For one example, listen to the Menuetto of the Mozart String Quartet in D Minor, and focus on measures 22–29, the end of the **B** section (the harmonic disturbance) of this binary form (Example 30.1a).

EXAMPLE 30.1: Chromatic and diatonic descending-fifth sequences

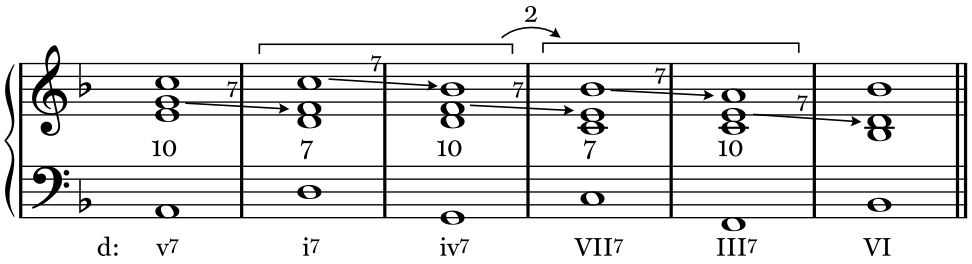
(a) Mozart, String Quartet in D Minor, mvt. 3, mm. 22–29



(b) Reduction for mm. 22–29



(c) Diatonic descending-fifth sequence framework with root-position seventh chords



The bass line (cello part) reveals the harmonic foundation of the passage. In this descending-fifth sequence, each triad's quality has been altered to make a dominant seventh chord—the V7 of the chord that comes next. Part (b) shows a reduction of this chromatic sequence, while part (c) gives a diatonic version for comparison. The voice-leading in (c) is typical of this kind of sequence in that the chordal sevenths all resolve down by step as expected; in the chromatic version (part b), all leading tones except the last one also resolve down—pulled downward in a stepwise descending chromatic line.

KEY CONCEPT The most common type of **chromatic sequence** is a descending-fifth sequence in which dominant seventh chords are substituted for all or some of the chords in the diatonic pattern (usually every other chord). The sequence patterns usually feature root-position seventh chords (like diatonic sequences) but may also include inversions.

You can analyze this type of sequence with V7 and Roman numerals, as here, or with V7 and letter names (V7/G, V7/C, V7/F, etc.). The former is preferred if the key context for the sequence is obvious—as in part (a), where the sequence begins and ends in the same key. The latter is helpful if the key is not clear, or if the sequence is used to modulate.

KEY CONCEPT To transform diatonic sequences into chromatic sequences,

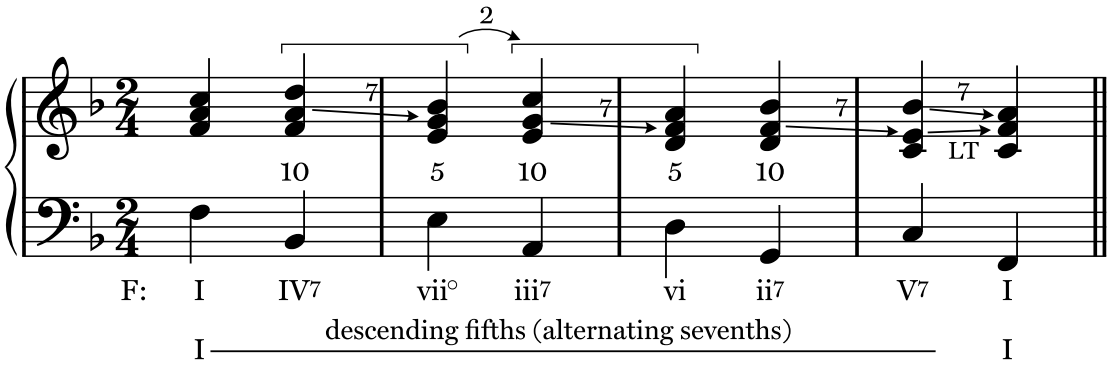
- substitute chromatic harmonies for similar diatonic ones (e.g., a dominant seventh for a diatonic chord, or a mixture chord for a same-function diatonic chord); or
- embellish the diatonic framework with chromatic passing or neighbor tones.

When chromatic descending-fifth sequences include inversions, the bass line may skip by an augmented or a diminished interval.

Try it #1

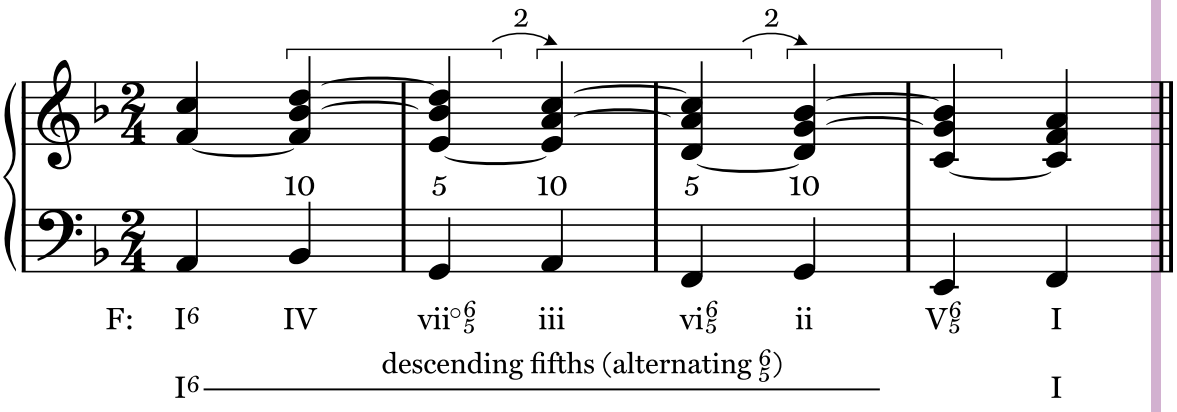
A. Replace the diatonic seventh chords below (every other chord) with secondary dominants by adding accidentals, starting with the IV7: add an A♭ to make it V7/E♭ (V7/♭VII). This sequence will accumulate flats as each secondary dominant resolves. When you reach the ii7, use mode mixture instead of a secondary dominant to connect it into the cadence (otherwise it will head toward F♭ major). Write a Roman numeral below any chord you have changed.

Show answers



B. Replace the diatonic seventh chords with secondary dominants, starting with the vii$\circ\frac{6}{5}$: alter it to make it V$\frac{6}{5}$/A. This sequence will acquire sharps in the bass line to create leading tones. Change the qualities of the iii and ii chords to create a chromatically descending soprano line. Watch out for needed accidentals to make the correct qualities. Provide a Roman numeral below any chord you have changed.

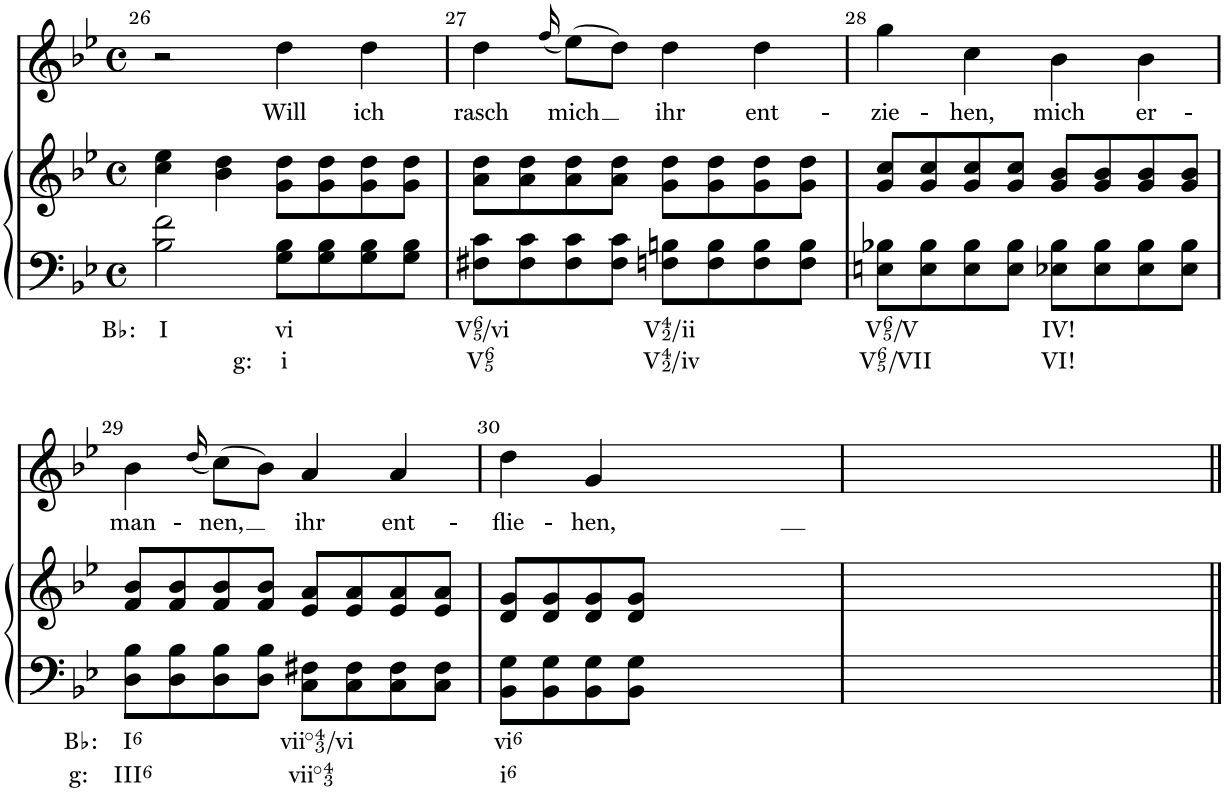
Show answers



Descending Chromatic Bass Lines

Listen to the excerpt from “Neue Liebe, neues Leben” shown in Example 30.2. After a repetition of the opening parallel period (mm. 1–8) in measures 17–24, and a two-measure extension that cadences in B♭, the character of the song begins to change—with a new vocal line and accompanimental texture, and a

chromatic descent in the bass line. Undoubtedly, this change is sparked by the unrest of the text, which speaks of quickly fleeing away. Because of the sequence with secondary dominants and the lack of a cadence to confirm the key, the key in this passage could be read as B♭ major (the key of the previous phrase) or G minor (the key of the following phrase); both analyses have been provided.

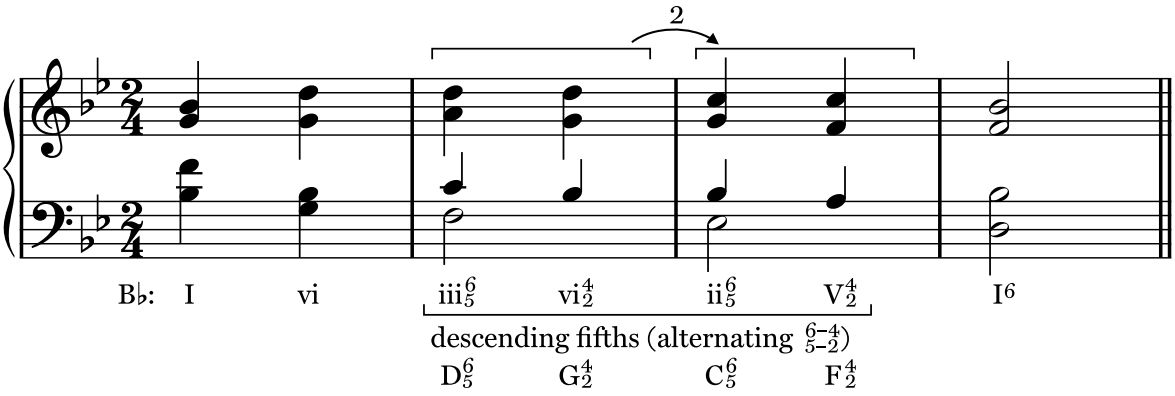
EXAMPLE 30.2: Hensel, "Neue Liebe, neues Leben," mm. 26–30

26
27
28
Will ich rasch mich ihr ent - zie - hen, mich er -
B♭: I vi V6/vi V4/ii V6/V IV!
g: i V6 V4/iv V6/VII VI!
29
30
man - nen, ihr ent - flie - hen,
B♭: I6 vii°4/vi vi6
g: III6 vii°4 i6

Translation: If I swiftly run away from her, to take courage, to flee from her.

The chords in measures 27–28 are based on a descending-fifth root progression from D to G to C to F, with alternating $\frac{6}{5}$ and $\frac{4}{2}$ inversions, a chromaticized version of the pattern shown in Example 30.3. The second chord in measure 28, though, is

not a V^4_2 (or V^4_2/III in G minor) as expected, but IV (or VI). If the pattern had been continued, the chord here would have been F-A-C-E♭, with the E♭ in the bass, which would have resolved normally to the chord in measure 29. Instead, Hensel holds two common tones, B♭3 and G4, and moves the other two voices by step–E3 to E♭3, and C5 to B♭4–breaking the sequence. The key of G minor is not confirmed until measures 33–34 (with an IAC). Perhaps Hensel chose to reflect the indecisiveness expressed by the text in this harmonic progression.

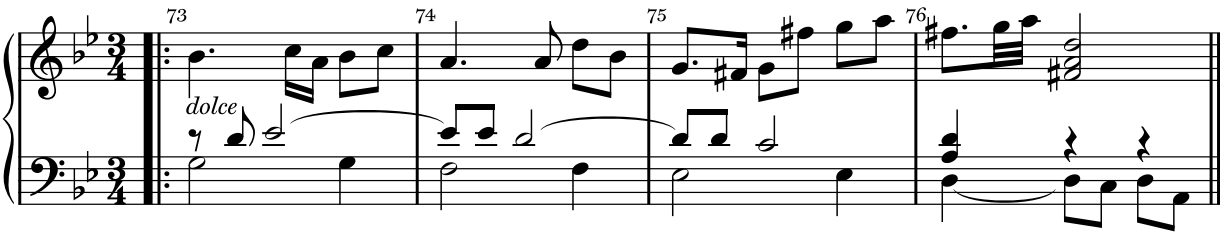
EXAMPLE 30.3: Diatonic descending-fifth sequence with seventh chords alternating and inversions



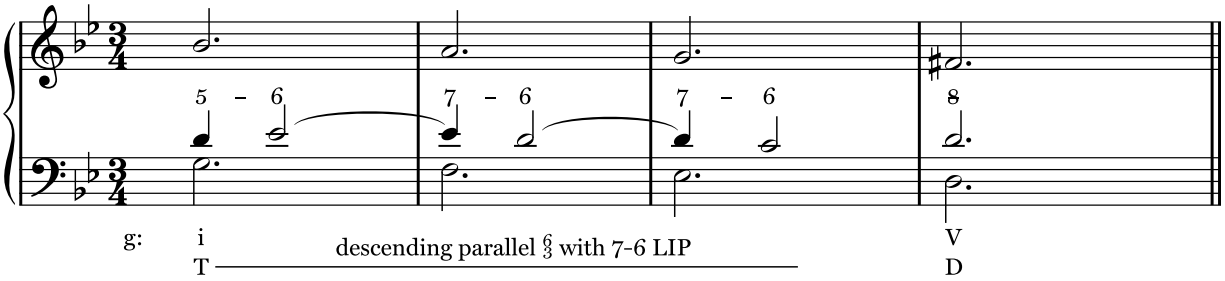
For another type of chromatic sequence based on a stepwise descending bass line, consider Example 30.4, from the Handel Chaconne. Compare the opening of Variation 9 in part (a) with the opening of Variation 16 in part (b). Both variations begin with a 5–6 intervallic gesture in the left hand, setting up an expressive chain of 7–6 suspensions in the bass and tenor voices. In part (b), the stepwise bass line of part (a) has been elaborated to create a chromatic descent from $\hat{1}$ to $\hat{5}$.

EXAMPLE 30.4: Handel, Chaconne in G Major

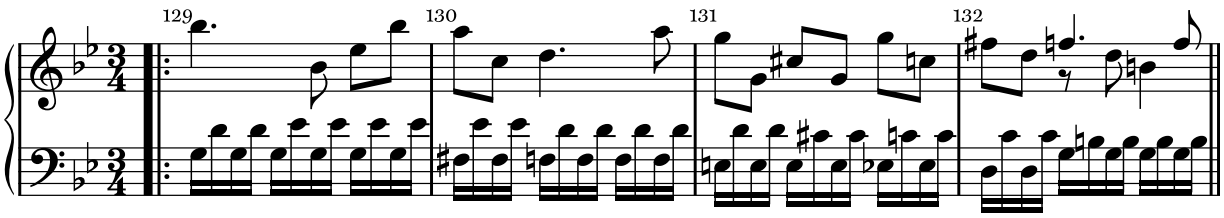
(a) Variation 9, mm. 73–76



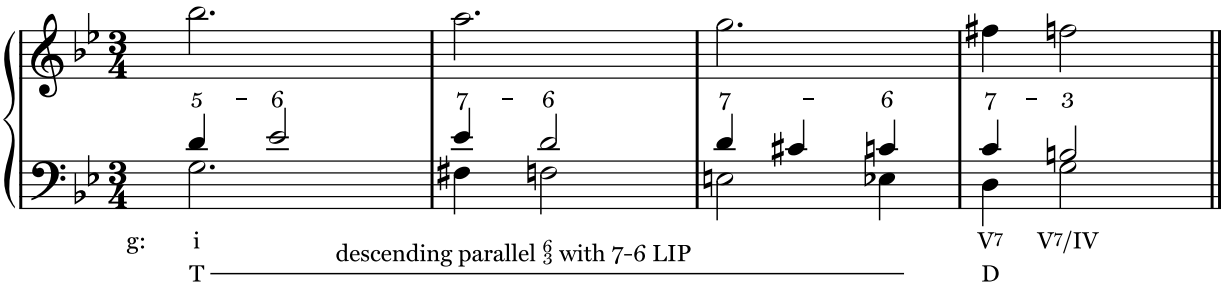
Reduction



(b) Variation 16, mm. 129–132



Reduction



An attempt to apply Roman numerals to measures 130–132 would be an exercise in futility; the passage is strongly linear, and is not based on a root progression. If these simultaneities

are stacked in thirds to spell diminished seventh chords followed by triads, the chordal sevenths of the diminished seventh chords do resolve downward, following the 7–6 linear pattern of previous variations. However, the roots F♯3 and E3 on the downbeats of measures 130 and 131 move downward as part of the chromatically embellished bass line that created them in the first place. These voice-leading chords are best analyzed as a chromaticized 7–6 sequence. Similarly, the C♯-E-G sonority in measure 131, beat 2, is a diminished triad produced by chromatic embellishment; although it could be given a Roman numeral (a vii^{o6}/V that resolves irregularly), this "chord" is best labeled simply by identifying the C♯s as chromatic passing tones.

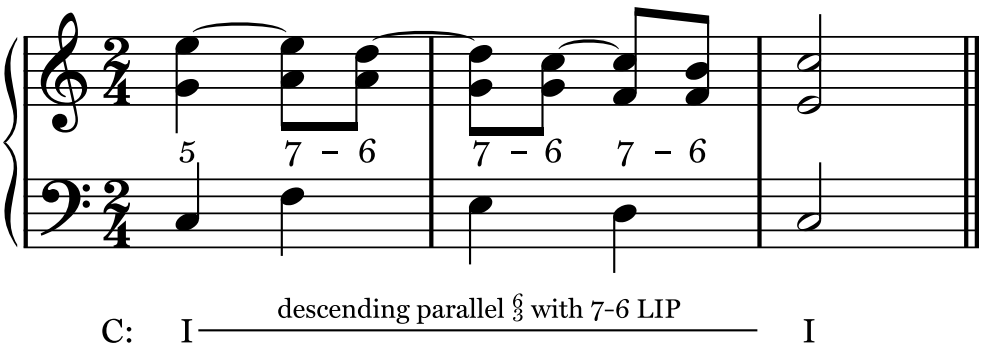
SUMMARY

- Any sequence that features stepwise voice-leading is a candidate for chromatic embellishment.
- The embellishment can be as simple as filling in whole steps chromatically in one voice (usually the bass), or it may involve elaborate chromaticism in several voices.
- In descending-fifth sequences, some or all of the seventh chords may be replaced with chromatic secondary-dominant-function chords in root position or inversions.

Try it #2

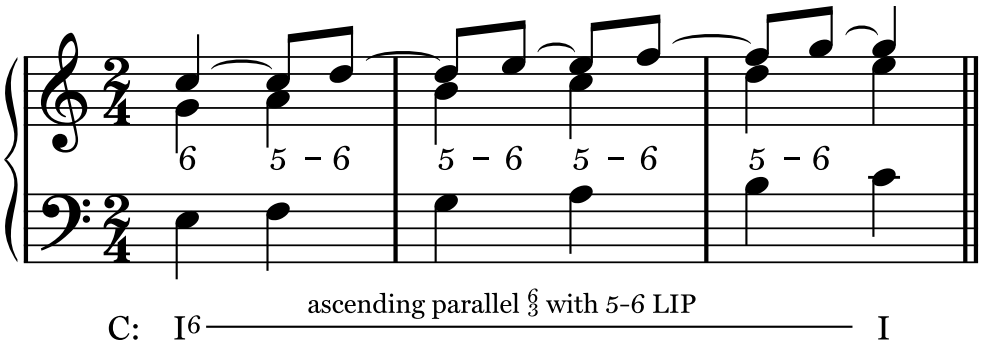
A. Insert notes with accidentals in the bass line, beginning with E3, to make it descend chromatically (change the bass-line quarter notes to eighth notes).

Show answers



B. Insert notes with accidentals in the bass line to make it ascend chromatically (changing the bass-line quarter notes to eighth notes).

Show answers

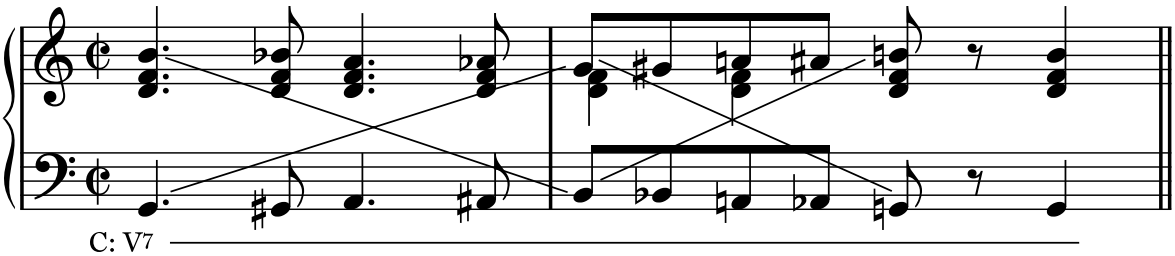


Chromatic Voice Exchanges and Wedge Progressions

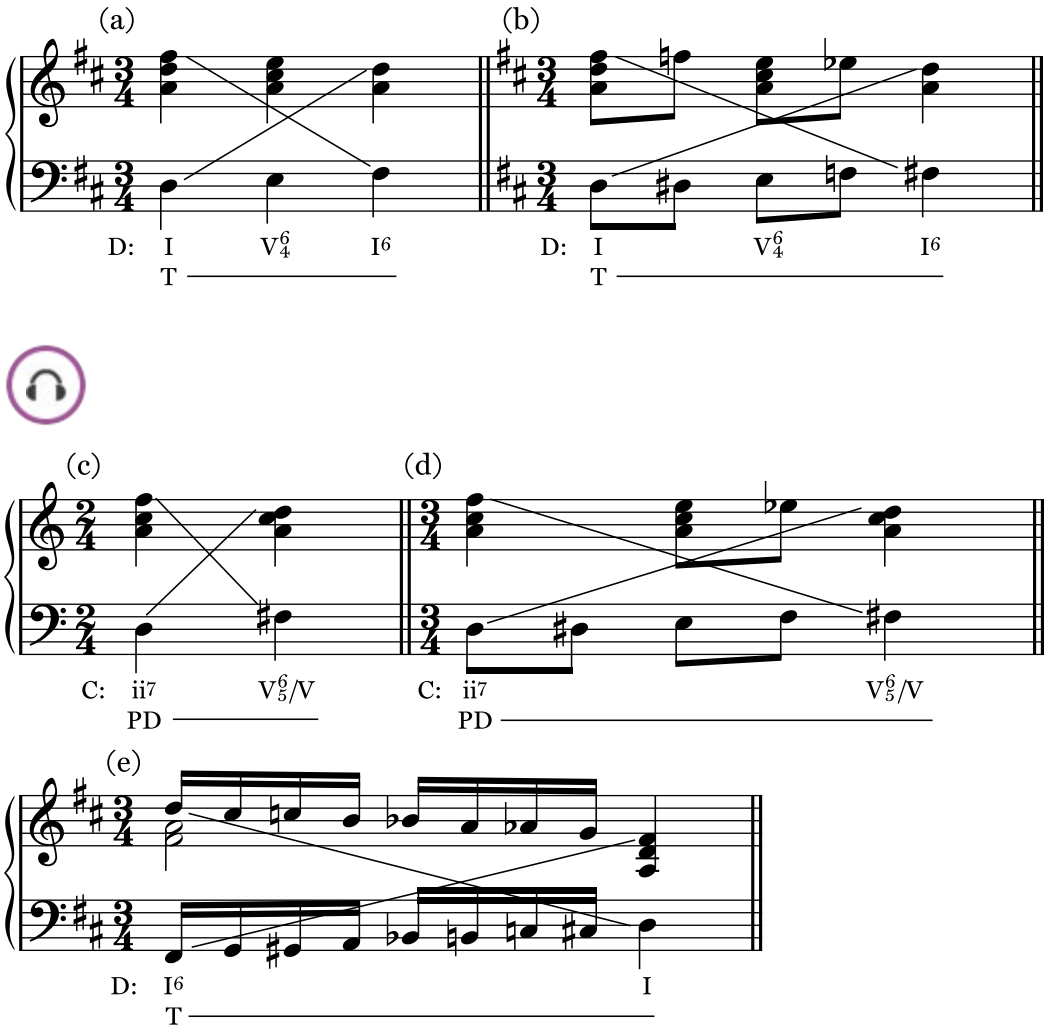
Example 30.5 shows a chromatic progression written in the style of a march introduction. In this progression, the inner voices (D4 and F4) stay the same throughout, while the outer voices move in contrary motion from G2 (bass) and B4 (soprano) to B2 and G4 and back again—making a voice exchange, filled in with half steps. As is usual with a voice exchange, the chord with the interval that is exchanged, in this case V7, is prolonged; the "chords" in between are not strong

functional harmonies but rather by-products of voice-leading. Progressions like this—where two voices move chromatically in contrary motion—are called **chromatic wedge progressions**.

EXAMPLE 30.5: Chromatic introduction



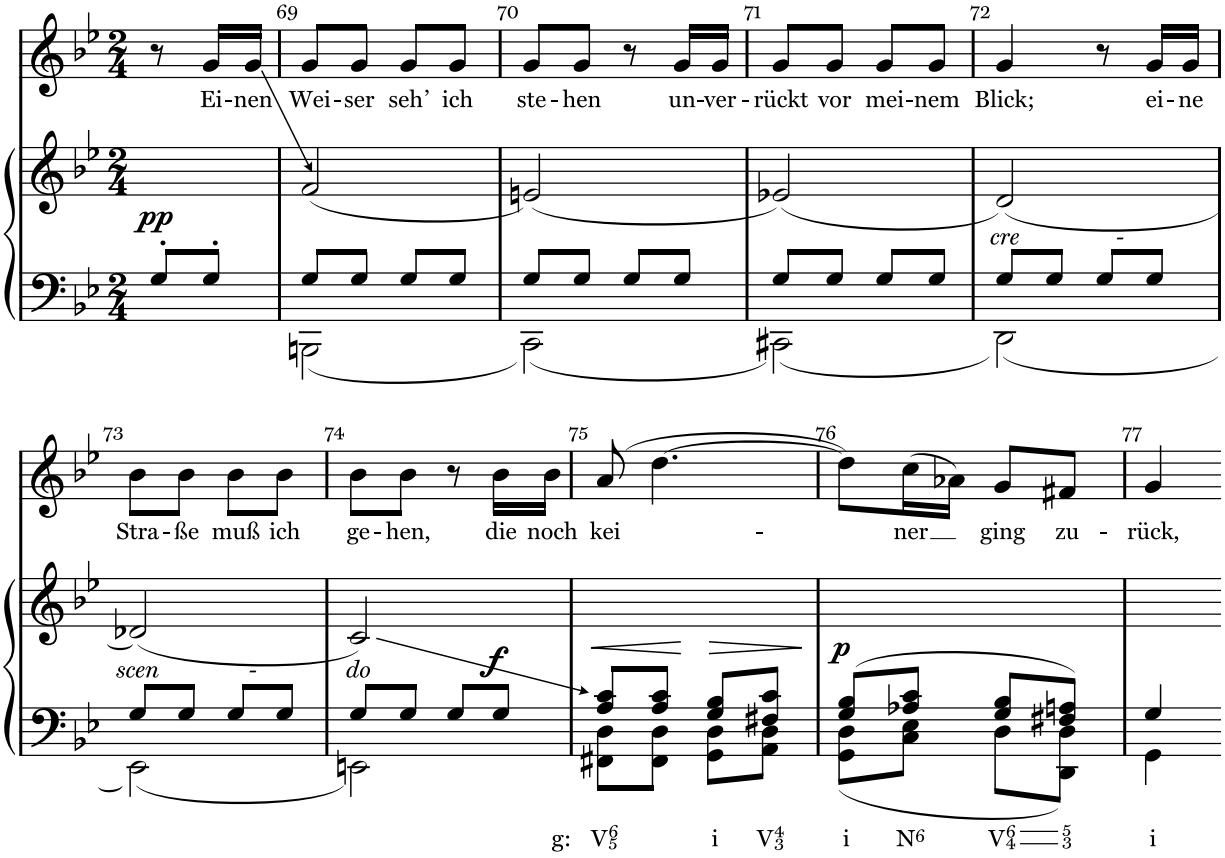
Example 30.6 demonstrates a number of ways that voice exchanges may be filled in chromatically. Previous chapters considered voice exchanges filled in with a diatonic passing chord—usually a second-inversion triad or seventh chord, as in part (a). In Romantic-era pieces, a relatively simple elaboration can be made by filling in the half steps between the notes that are exchanged, as in part (b). Part (c) shows a chromatic voice exchange between ii^7 and V^6_5/V, where $\hat{2}$ and $\hat{4}$ in the ii^7 chord change places with $\hat{2}$ and $\sharp\hat{4}$ in the V^6_5/V. Here, the soprano descends by a m3, while the bass ascends a M3. To chromaticize this voice exchange requires a repeated pitch (or a longer note value) in the upper voice to match the duration of the lower (part d). Either of these elaborated progressions may be reversed to return chromatically to the beginning point, as in the march introduction of Example 30.5.

EXAMPLE 30.6: Voice exchanges and their chromatic elaborations

There are many possible variants of the chromatically filled voice exchange: as one example, the frameworks here can be inverted to begin with outer voices spanning a sixth rather than a third (part e). While it is sometimes possible to analyze the chords between the "ends" of the voice exchange with Roman numerals, these labels do not make sense functionally; rather, these chromatic successions serve to prolong the chords at either end.

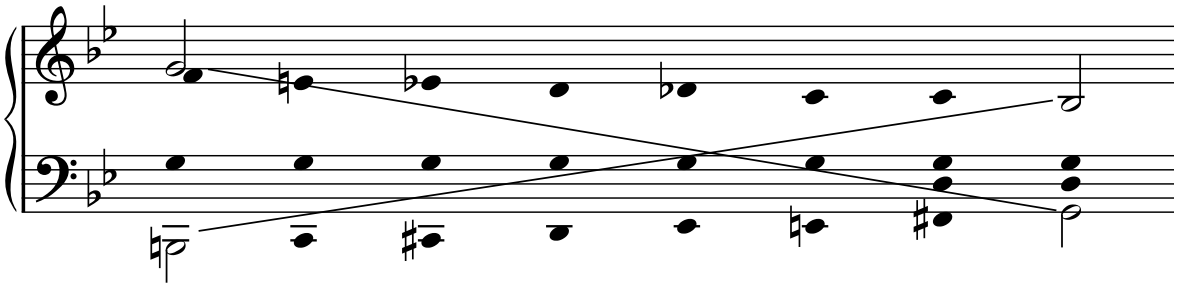
Now listen to Example 30.7a, from Schubert's "Der Wegweiser," for an extended chromatic wedge (or omnibus) progression. In measures 68–75, two voices move in contrary motion by half step. The upper voice spans G4 (supplied by the vocal anacrusis to m. 69 and continuing in the piano part) down

to B♭3 (beat 2 of m. 75), while the bass line spans B♮1 to G2—a chromatic voice exchange. Part (b) clarifies how each voice progresses chromatically, with the held root of the G chord filling in an inner voice.

EXAMPLE 30.7: Schubert, "Der Wegweiser"

(a) Mm. 68–77

Translation: One sign I see standing, unmoving before my gaze; one street must I go down, from which no one has come back.

(b) Reduction of mm. 68–75



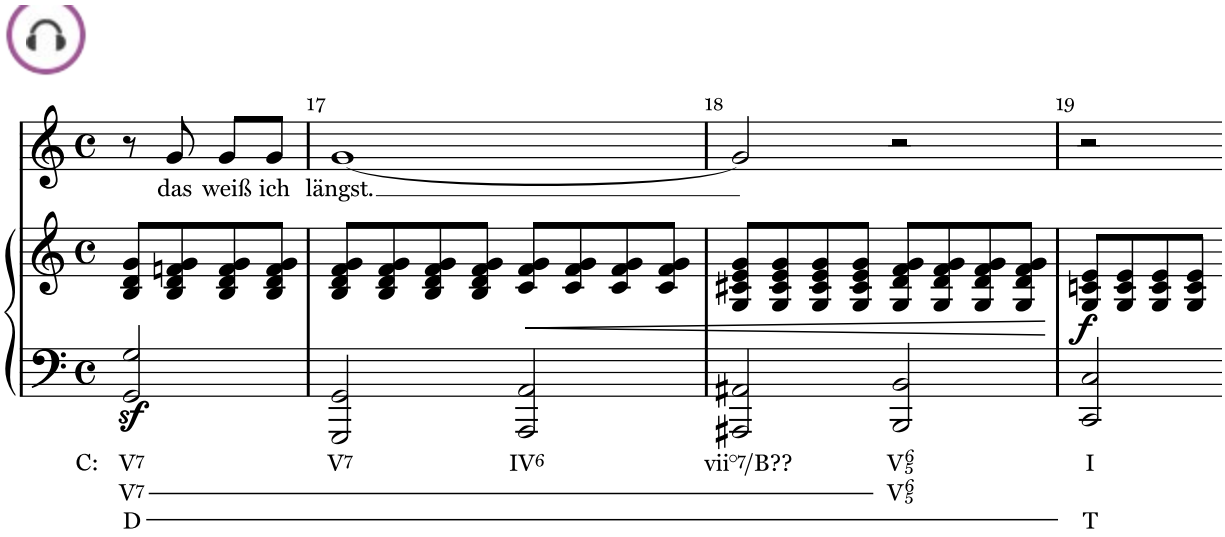
Again, an analysis of these sonorities with Roman numerals does not make sense: you would end up with a series of secondary dominants and augmented-sixth chords (even a diminished third chord!), with their implied resolutions unfulfilled. Better simply to label the chord that is prolonged, and not worry about the simultaneities in between.

Listen to the excerpt again to hear how Schubert interprets the words "unverrückt" (unmoving) and "keiner" (no one) musically. The phrase begins with the vocal line literally unmoving, a repeated G4 unremitting above the accompaniment's chromatic lines. These repeated notes might be sung with a fairly uninflected "straight" interpretation to portray the unmoving street sign. The high point of the line in terms of register, duration, and emotional content falls on "keiner," and Schubert's use of the lowered $\hat{2}$ and Neapolitan harmony on the last syllable works to create a sense that this is a road from which no one returns. Singer and pianist alike can intensify this foreboding through tone color and timing decisions.

Common-Tone Diminished Seventh and Augmented-Sixth Chords

Turn now to two contrasting songs to learn additional ways to embellish harmonies chromatically. Listen first to Schumann's poignant "Ich grolle nicht," while following the score in your anthology.

EXAMPLE 30.8: Schumann, "Ich grolle nicht," mm. 16–19



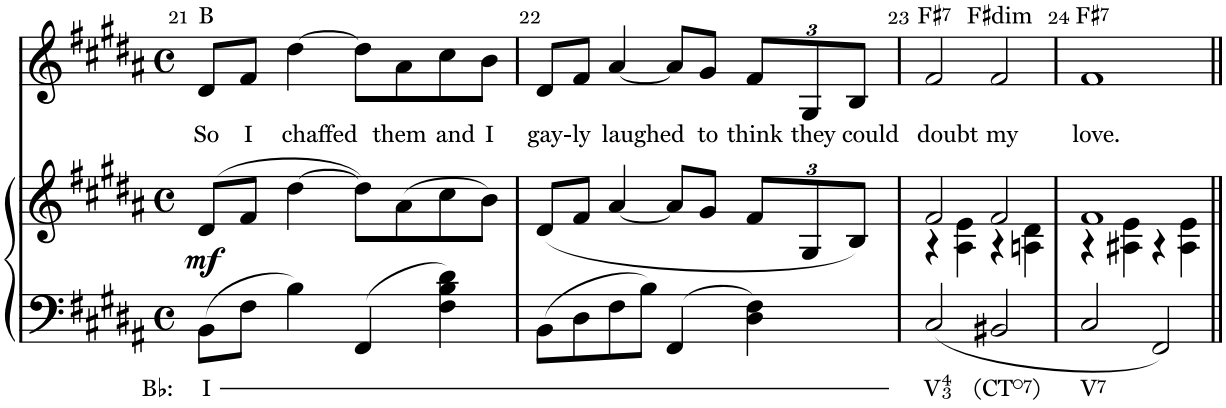
Translation: That I have known for a long time.

The harmonic analysis of the passage in Example 30.8 is fairly straightforward except for two chords—the IV6 in measure 17 (because it is unexpected after V7) and the diminished seventh chord on the downbeat of measure 18 (because it does not resolve as a secondary diminished seventh). Both sonorities result from passing motion against the reiterated common tone G4 in the uppermost voice of the piano and vocal line. The diminished seventh is called a **common-tone diminished seventh chord** (abbreviated CT°7), or **embellishing diminished seventh chord**, because it carries the fully diminished quality, but does not function as a diatonic or secondary diminished seventh chord. These types of embellishing chords function in the same way as passing or neighboring $\frac{6}{4}$, $\frac{4}{2}$, or other voice-leading chords, but with additional chromaticism.

Look now at another diminished seventh chord, from "Smoke Gets in Your Eyes" (Example 30.9). Listen to the passage, concentrating on the diminished seventh chord in measure 23, beat 3 (D♯-F♯-A-B♯ [C♮]). As in the Schumann example, the diminished seventh here embellishes the dominant harmony, and the common tone of the CT°7 is in the uppermost voice.

EXAMPLE 30.9: Kern and Harbach, "Smoke Gets in Your Eyes,"

mm. 21–24



KEY CONCEPT Common-tone diminished seventh chords are collections of chromatic and diatonic neighbor or passing tones that happen to make a fully diminished seventh sonority. They always share one pitch with the chord that precedes or follows them. They do not resolve as dominant-function chords, but have an embellishing role in the progression.

To write a common-tone diminished seventh chord (Example 30.10):

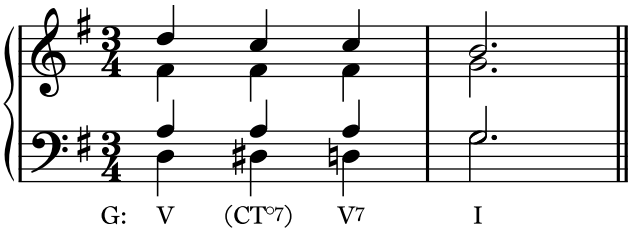
1. Find a position for the chord between two harmonies that share one or more common tones (it may be the same harmony, possibly with a change of voicing).
2. Write the first and third chords, leaving a space in the middle.
3. Choose a common tone to share with the first or third harmony (usually the soprano or bass note); build a diminished seventh chord with that common tone as one element and stepwise motion in the other voices.
4. Remember that $CT^{\circ 7}$ chords have an embellishing function. In part (a), the bass line features a chromatic neighbor tone,

in part (b) a chromatic passing tone, and in part (c) a pedal.

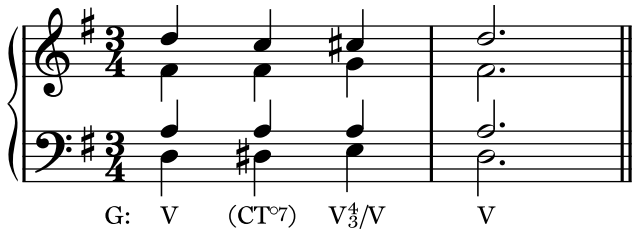
5. Because the $\frac{4}{2}$ inversion is typical for CT$^{\circ 7}$ chords, you may keep the common tone in the bass and build a $^{\circ 7}$ chord in $\frac{4}{2}$ position by raising the fourth and second above the bass (part c).

EXAMPLE 30.10: Common-tone diminished sevenths

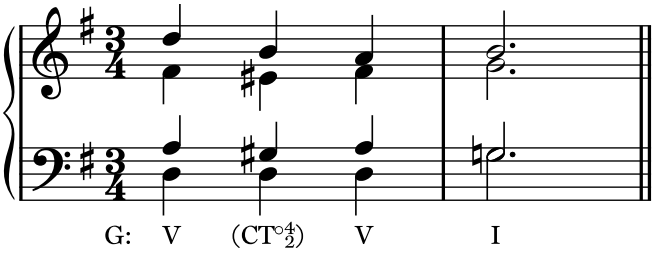
(a) Neighboring



(b) Passing



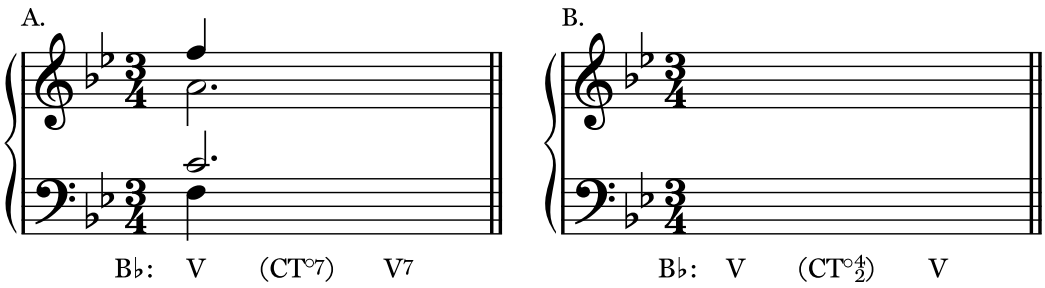
(c) CT$^{\circ 7}$ in $\frac{4}{2}$ position



Try it #3

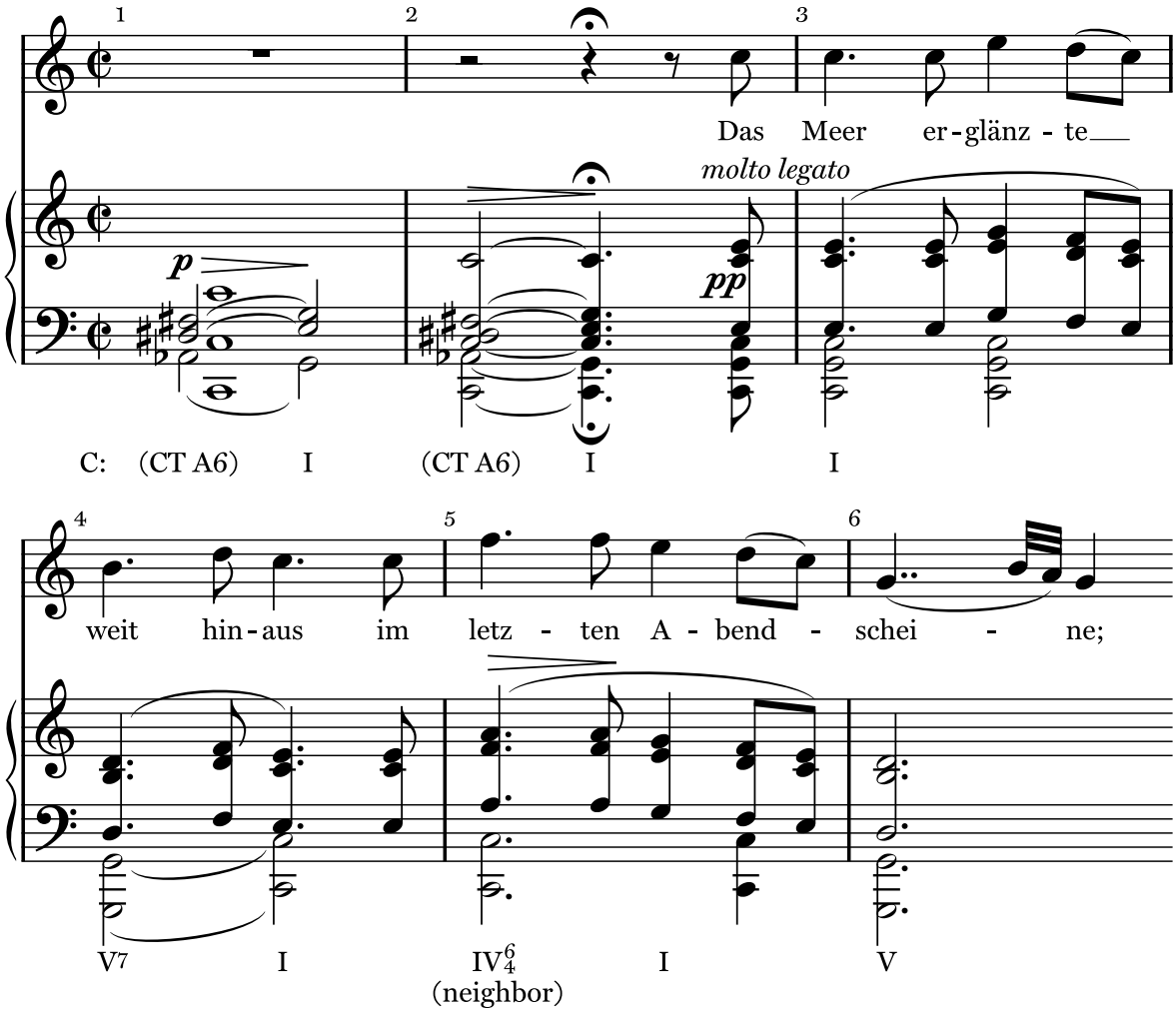
Write a CT$^{\circ 7}$ that departs from and returns to the given chord, first using model (a) in Example 30.10 (neighboring motion in the bass), **Show answers**

then model (c) (common tone in the bass).



It is also possible to find similar collections of chromatic neighbors that make a so-called **common-tone augmented sixth** (CT A6). This chord usually prolongs the tonic harmony, as in Example 30.11; both pitches of its distinctive augmented sixth still resolve outward to $\hat{5}$—though in this context, to the fifth of the tonic harmony. Here, the $\flat\hat{3}$ of the CT A6 is spelled $\sharp\hat{2}$ (D♯ rather than E♭). A French version is also possible, with $\hat{2}$ instead of $\flat\hat{3}$.

EXAMPLE 30.11: Schubert, "Am Meer," mm. 1–6



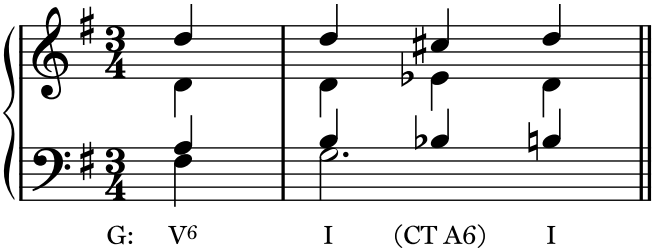
Translation: The sea sparkled in the distance in the last light of the evening.

KEY CONCEPT To write a progression with a common-tone augmented-sixth chord:

1. Write the root-position tonic chord as the first and third chords of the progression. In both tonic chords, double the fifth instead of the root (see Example 30.12; the CT A6 may also appear without a tonic chord preceding it).
2. For the CT A6, write a note a half step below the upper $\hat{5}$ to make $\sharp\hat{4}$, and a note a half step above the lower $\hat{5}$ to make $\flat\hat{6}$; these should resolve to the doubled fifth in the third chord.

3. Fill in the remaining pitches of the A6 chord. The common tone (1̂) is usually maintained in the bass. The missing element is ♭3̂ for a Gr6 (the most frequently used CT A6). Because it lies a chromatic half step below the third (3̂) of the tonic chord, ♭3̂ is sometimes spelled ♯2̂, as a chromatic neighbor tone. In minor keys, the ♭3̂ and ♭6̂ are already in the key signature; the only note with an accidental will be ♯4̂.

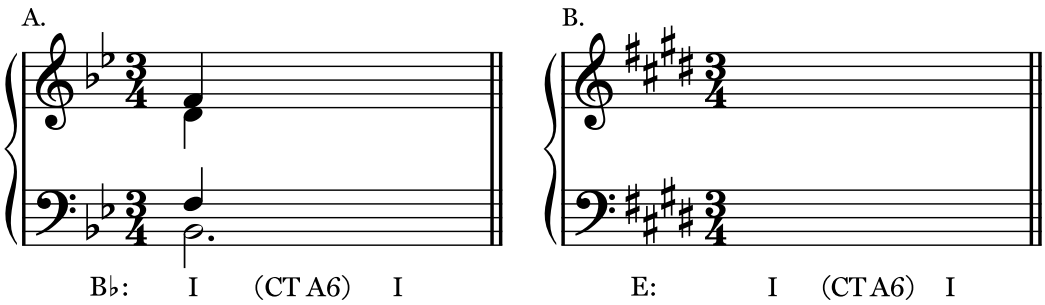
EXAMPLE 30.12: Common-tone Gr6



Try it #4

Write three chords in each measure below. The first and third should be the tonic chord in the given key: for the second chord, write a CT A6.

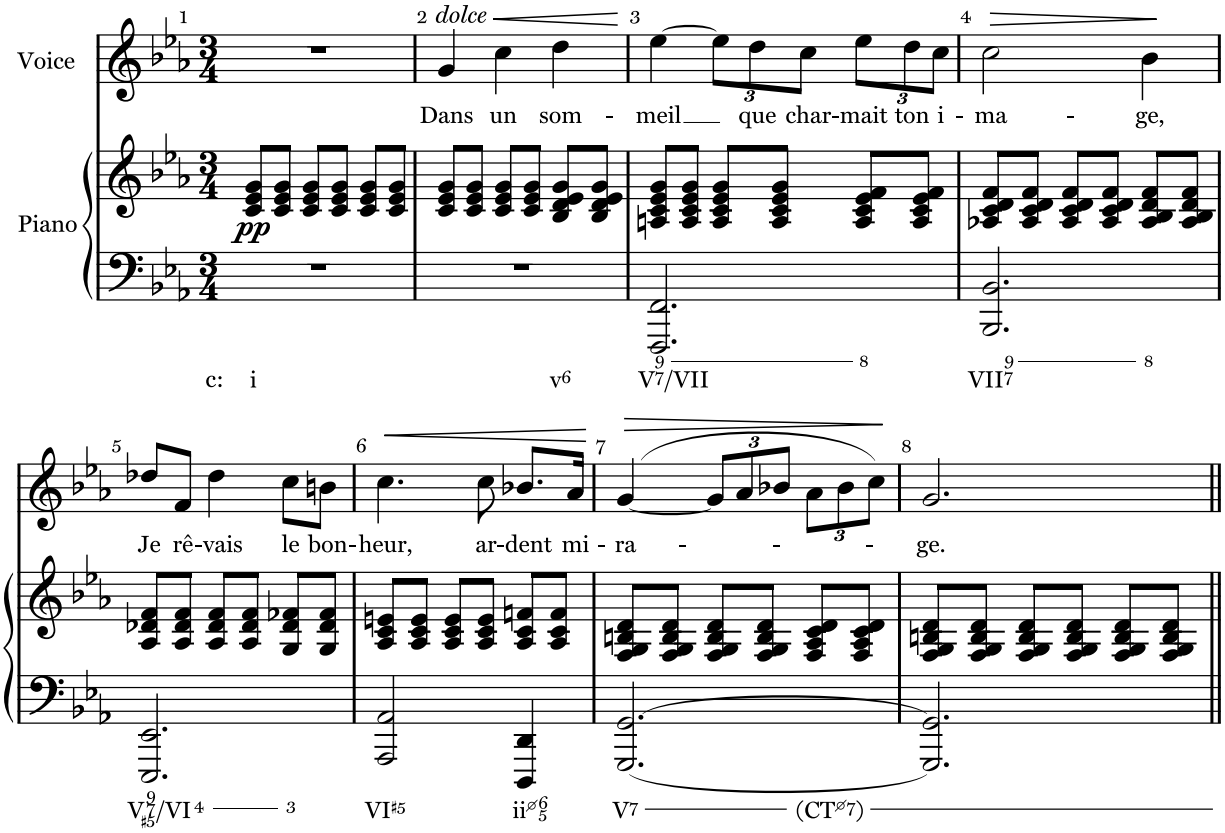
Show answers



The Raised Chordal Fifth

Another common chromatic alteration of a diatonic harmony—one you have already seen in a popular-music context—is the inflection of a chordal fifth up a half step to create an augmented triad. This occurs frequently in the dominant or dominant seventh harmony, but may also appear in the tonic triad (sometimes as a variant of $^{5\text{–}6}$ motion to $^{5\text{–}\sharp5\text{–}6}$), or it may chromatically embellish other diatonic harmonies. One way to analyze these chords is by identifying the embellishing tones that create the augmented triad; alternatively, analyze them with Roman numerals and figures such as $I^{\sharp5}$, $V^{\sharp5}$ or $V^{7}_{\sharp5}$.

Example 30.13 shows both a secondary dominant (m. 5) and a diatonic triad with raised chordal fifth (m. 6). The excerpt ends with a dominant seventh expanded by a $CT^{\varnothing7}$ (less typical than the fully diminished $CT^{\circ7}$).

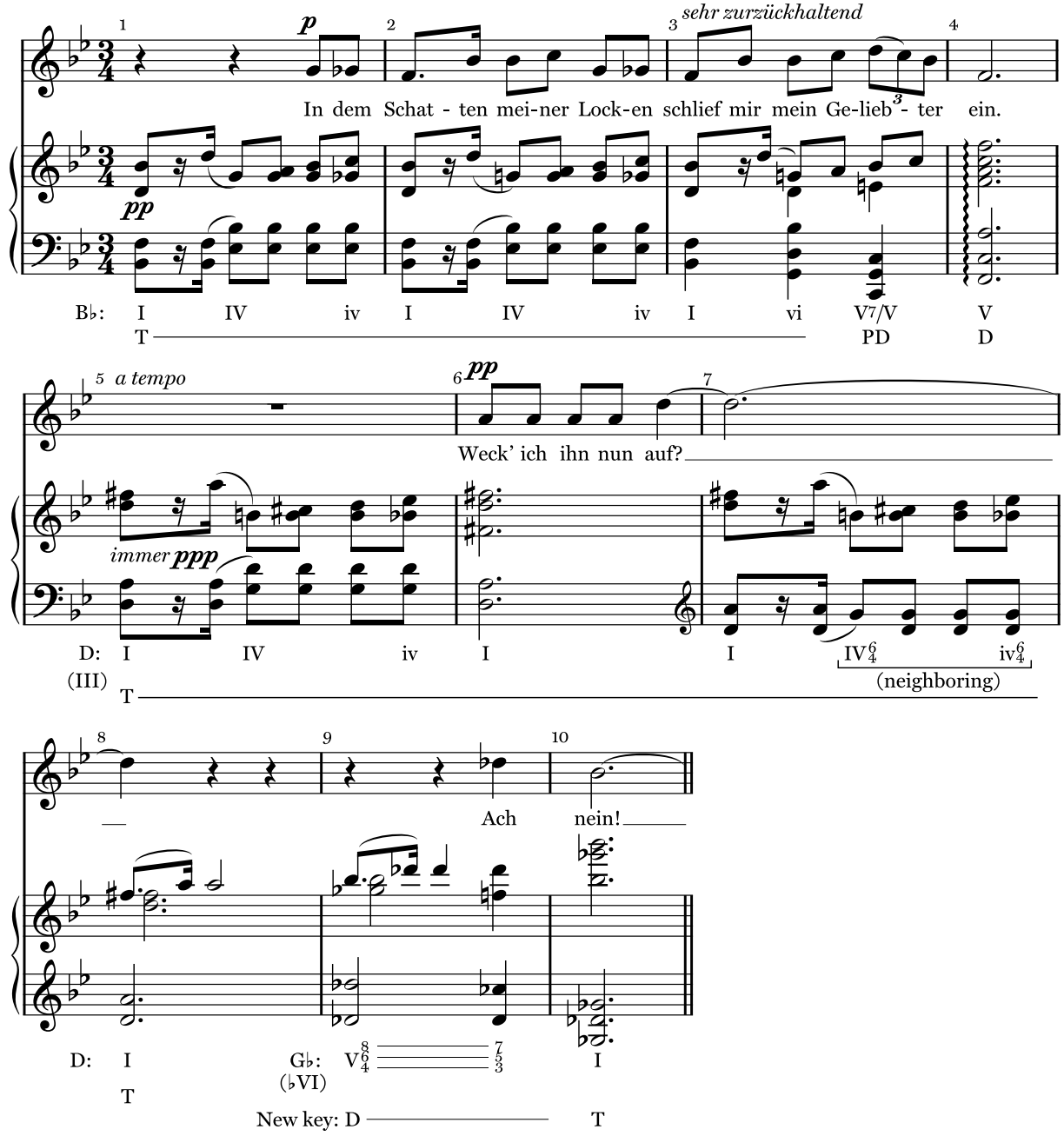
EXAMPLE 30.13: Fauré, "Après un rêve," mm. 1–8

Translation: In a sleep that your image charmed, I dreamed of happiness, ardent mirage.

Chromatic Mediant Relations

Before the Romantic era, the most common modulation in a major key was to the dominant. With the increasing exploration of chromaticism in the nineteenth century, however, motion to third-related keys became much more common.

KEY CONCEPT A **chromatic mediant** is a nondiatonic triad whose root is a major or minor third above or below the tonic. Each chromatic mediant shares one common tone with the tonic triad; for example, B♭ major (B♭–D–F) and D major (D–F♯–A) share D. The term encompasses triads built both a third above (mediant) and a third below (submediant) the tonic. While chromatic mediants can appear as individual harmonies within a progression, they are most often employed as key areas.

The first two phrases of Wolf's "In dem Schatten meiner Locken" (Example 30.14) provide an example of chromatic mediant relations. The first phrase begins with an expansion of the tonic area by IV, with chromatic embellishments (and an inflection of IV to iv through mixture); it ends with a tonicization of V (m. 4). The second phrase begins with a D major triad (m. 5), a major-quality chromatic mediant (III), by direct modulation. Another direct modulation, to G♭ major (♭VI, another chromatic mediant key and also a tonicized mixture chord) in measure 9, ends phrase 2 in the lowered submediant key.

EXAMPLE 30.14: Wolf, "In dem Schatten meiner Locken," mm. 1–10

sehr zurzückhaltend
In dem Schat - ten mei-ner Lock-en schlief mir mein Ge-lieb - ter ein.
B♭: I IV iv I IV iv I vi V7/V V
T PD D
a tempo
Weck' ich ihn nun auf?
immer ppp
D: I IV iv I I IV64 iv64
(III) (neighboring)
T
Ach nein!
D: I G♭: V86 73 I
(♭VI)
T
New key: D T

Translation: In the shadow of my tresses my beloved has fallen asleep. Shall I wake him up now? Ah, no!

This sequence of keys—B♭ to D to G♭, and eventually back to B ♭—spans a cycle of major thirds. Tonicizations that span the entire octave by some equal interval are called **symmetrical divisions of the octave**. Most typical of the Romantic era are symmetrical designs that divide the octave by major third, as

here, or by minor third. It takes three modulations to bring a major-third cycle back to the tonic (as in the Wolf song, B♭–D–G♭–B♭) and four modulations to bring a minor-third cycle back to the tonic (e.g., C–E♭–G♭–A–C).

Chromatic mediants, while not common as individual chords, frequently serve as key areas in Romantic-era pieces. When analyzing such chords, first check to see whether the alterations in chord quality and resolution may be attributed to a temporary tonicization or secondary-dominant function. In the Wolf song, the second phrase begins as a sequential repetition of the first (transposed up a major third), though it ends with a phrase extension (making it a six-measure phrase) and a cadence in G♭ major. The G♭s in measures 1–2 and the F♯s in measures 5–8 prepare the listener for this abrupt shift in key.

KEY CONCEPT When analyzing chords that have been chromatically altered:

- Use uppercase Roman numerals for major and augmented chords and lowercase for minor and diminished chords.
- Include $^{+}$ or $^{\circ}$ for augmented and diminished chords.
- Check whether seventh chords need $^{\varnothing}$ or $^{\circ}$ designations.
- Place an accidental before the Roman numeral only if the root has been altered from the diatonic scale degree.

Remember: With Roman numerals or scale-degree numbers, use ♭ for lowered and ♯ for raised regardless of the key signature. For example, the lowered-submediant root in A major is spelled with a natural sign, F♮, but the chord is still designated ♭VI.

The table below illustrates how to locate the chromatic mediant keys relative to B♭ major. Start by finding the diatonic mediant and submediant harmonies; changing the quality from

minor to major yields two of the chromatic mediant keys (III and VI). Next, find the mixture mediant (♭III) and submediant (♭VI), which are also chromatic mediant keys; changing the quality of those yields the remaining two chromatic mediant keys (♭iii and ♭vi, though rarely used).

Chord	Root of chord	Relationship of root to tonic	Diatonic	Mixture chromatic mediants	Chromatic mediants
Mediant in B♭ major	D ($\hat{3}$)	M3 above	D-F-A (iii)		D-F♯-A (III)
	D♭ (♭$\hat{3}$)	m3 above		D♭-F-A♭ (♭III)	D♭-F♭-A♭ (♭iii) (rare)
Submediant in B♭ major	G ($\hat{6}$)	m3 below	G-B♭-D (vi)		G-B-D (VI)
	G♭ (♭$\hat{6}$)	M3 below		G♭-B♭-D♭ (♭VI)	G♭-B♭♭-D♭ (♭vi) (rare)

Try it #5

Complete the table of chromatic mediants below, for E major.

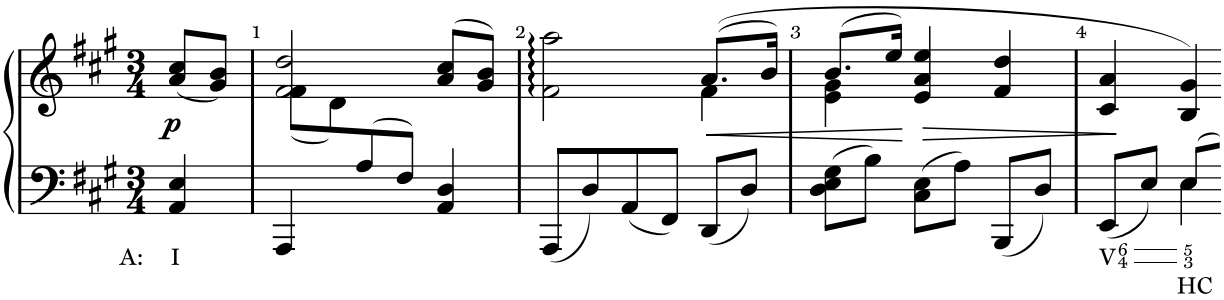
Show answers

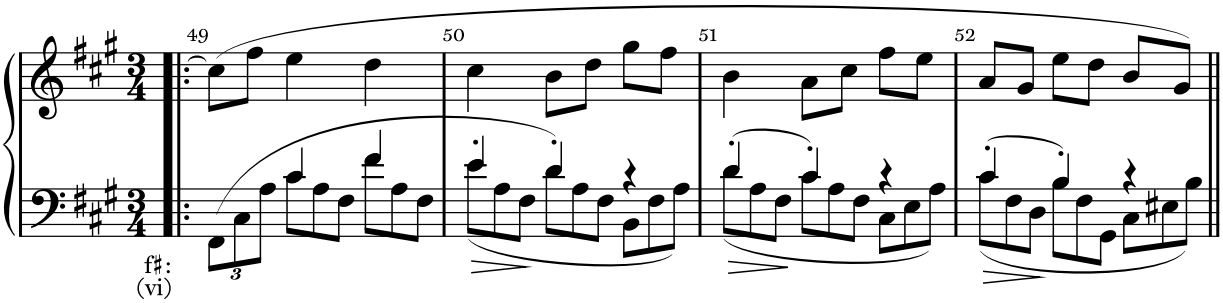
Chord	Root of chord	Relationship of root to tonic	Diatonic	Mixture chromatic mediants	Chromatic mediants
Mediant in E major	G♯ ($\hat{3}$)	M3 above	G♯-B-D♯ (iii)		
	G (♭$\hat{3}$)	m3 above			
Submediant in E major		m3 below			
		M3 below			

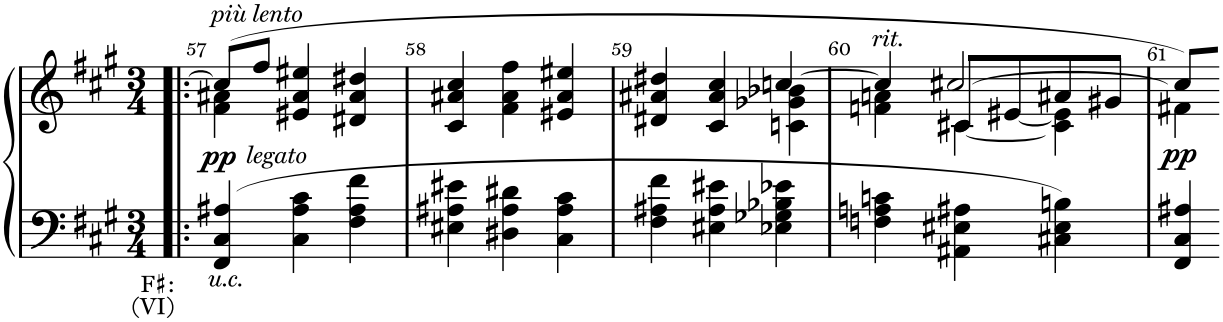
Three brief snapshots from Brahms's Intermezzo in A Major demonstrate how Brahms prepares the listener for the

chromatic-mediant relation he will be exploring. The piece begins in A major (Example 30.15a), with a phrase that ends in a half cadence preceded by a cadential $\frac{6}{4}$; the melody is then repeated and varied in the first large section. In contrast, a second large section begins with the music shown in part (b), in F♯ minor (vi), the relative minor of A major. The excerpt in part (c), which follows shortly after the F♯ minor passage, is in F♯ major (VI), a chromatic mediant. The modulations in each case are direct—a new section of the piece simply begins in the new key—but Brahms reaches this relatively distant key by first "traveling" through a closely related key, then by modal coloration.

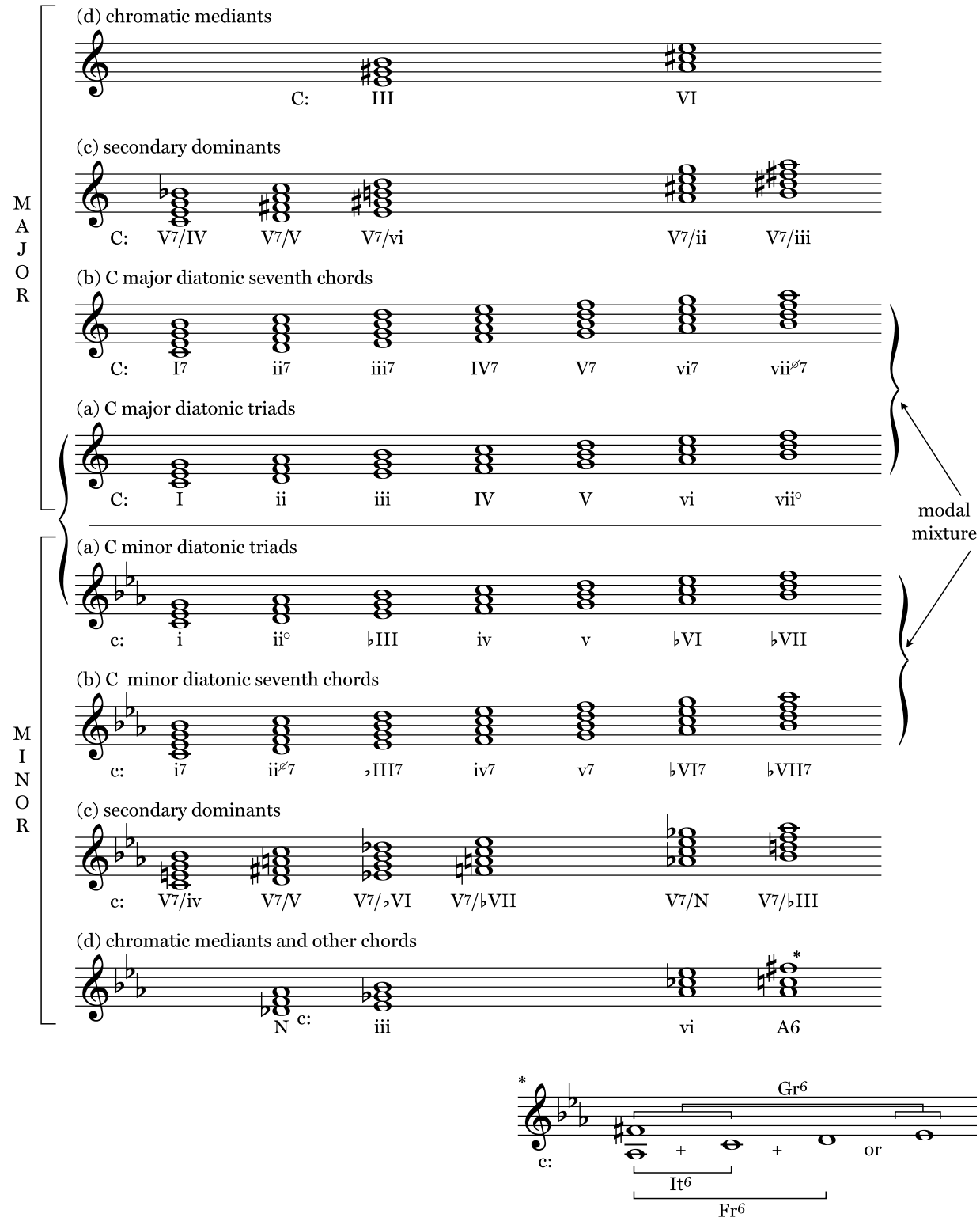
EXAMPLE 30.15: Brahms, Intermezzo in A Major

(a) Mm. 1–4

(b) Mm. 49–52



(c) Mm. 57–61

You have now learned all the common diatonic and chromatic triads and seventh chords employed in common-practice tonal music. These chords, and the relationships between them, are summarized in Example 30.16–a master table of diatonic and chromatic chords. The table illustrates the chords related to C major / C minor, but the same relationships hold in all other keys. The diatonic triads for C major and C minor are given in part (a), marked by a curly brace. The diatonic sevenths are given in (b), above and below the central rows. Their respective secondary dominants are shown in (c), and the chromatic mediants and other related chords in (d). Everything above the dotted line applies to major keys, everything below to minor keys as though through mixture with C major (e.g., ♭VI).

EXAMPLE 30.16: Diatonic and chromatic chords related to C major and C minor

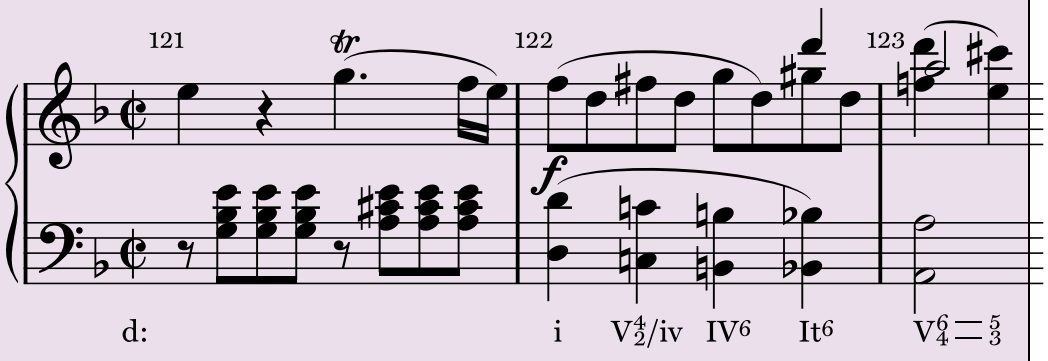

MAJOR
(d) chromatic mediants
C: III VI
(c) secondary dominants
C: V7/IV V7/V V7/vi V7/ii V7/iii
(b) C major diatonic seventh chords
C: I7 ii7 iii7 IV7 V7 vi7 vii∅7
(a) C major diatonic triads
C: I ii iii IV V vi vii°
modal mixture
MINOR
(a) C minor diatonic triads
c: i ii° ♭III iv v ♭VI ♭VII
(b) C minor diatonic seventh chords
c: i7 ii∅7 ♭III7 iv7 v7 ♭VI7 ♭VII7
(c) secondary dominants
c: V7/iv V7/V V7/♭VI V7/♭VII V7/N V7/♭III
(d) chromatic mediants and other chords
N c: iii vi A6
Gr6
c: + + or
It6
Fr6

Did You Know?

You may be thinking that the omnibus progression from Schubert's "Der Wegweiser" (Example 30.7) is a Romantic-era innovation because of its extreme chromaticism. Yet theorist Paula Telesco has found that the omnibus and other chromatic wedge progressions originated in harmonizations of the lament bass—a chromatic descent in the bass line from $\hat{1}$ to $\hat{5}$ in minor found in Baroque continuous variations (including Handel's Chaconne in G Major, Example 30.5a, and Purcell's "Dido's Lament"), but also appears in later compositions, such as the Mozart sonata excerpt below.

In Mozart's chromatically filled wedge (mm. 122–123: D3–A2 in the left hand and F5–A5 in the right hand), the inner voices form chords that make a logical, functional harmonic progression from tonic to dominant. Schubert takes this one step further: his inner voices are static, and create a harmonic progression that does not make functional sense when analyzed with Roman numerals.

Mozart, Piano Sonata in D Major, K. 284, mvt. 3, mm. 121–123



TERMS YOU SHOULD KNOW

chromatic mediant
chromatic sequence
chromatic submediant
chromatic voice exchange
chromatic wedge progression
common-tone augmented-sixth chord (CT A6)
common-tone diminished seventh chord (CT $^{\circ 7}$)
omnibus progression
symmetrical divisions of the octave

QUESTIONS FOR REVIEW

1. What are some ways that diatonic sequence frameworks may be embellished chromatically?
2. What are some standard harmonizations for a descending chromatic bass line?
3. Which diatonic progressions may be enhanced through chromatic voice exchanges?
4. What is the function of common-tone diminished seventh and augmented-sixth chords?
5. What keys are related by chromatic mediant to E♭ major?
6. In music for your own instrument, find examples of (a) a chromatic sequence, (b) a chromatic voice exchange, and (c) a chromatic mediant key area. (Hint: Think first about the time period when each technique was widespread.)

7. How might the function of chromatic elements affect the way they should be interpreted in performance?

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31 Chromatic Modulation

Outline

Chromatic modulation employing common tones

- By common tone
- By common dyad and chromatic inflection
- Through mixture
- Enharmonic modulation with augmented-sixth chords
- Enharmonic modulation with diminished seventh chords

Chromatic modulation with sequences

- By descending-fifth sequence
- Other chromatic sequences

Linear chromaticism

- Chromaticism and voice-leading chords
- Intentional harmonic ambiguity
- Analyzing and performing chromatic passages

Overview

This chapter introduces new modulation techniques that are characteristic of the Romantic era, along with linear harmonic practices of late-Romantic chromaticism.

Repertoire

Ludwig van Beethoven
- Piano Sonata in C Minor, Op. 13 (*Pathétique*), mvts. 1 and 2
- Piano Sonata in C Major, Op. 53 (*Waldstein*), mvt. 1

Frédéric Chopin
- Prelude in C Minor, Op. 28, No. 20
- Prelude in E Minor, Op. 28, No. 4

Jerome Kern and Otto Harbach, "Smoke Gets in Your Eyes," from *Roberta*

Wolfgang Amadeus Mozart, String Quartet in D Minor, K. 421, mvt. 1

Schubert, Waltz in A♭ Major, Op. 9, No. 2

Richard Wagner, Prelude to *Tristan und Isolde*

Chromatic Modulation Employing Common Tones

In the Romantic era, as we saw in Chapter 30, composers began to explore distant key relationships. For example, from C major, instead of modulating to the closely related keys of G major (V), A minor (vi), F major (IV), or D minor (ii), they might modulate to A♭ major (♭VI), A major (VI), E♭ major (♭III), E major (III), or D♭ major (Neapolitan ♭II), or even to such keys as C♯ minor (♯i), F♯ major (♯IV), or B♭ major (♭VII). With distant keys like these, fewer pivot or common chord choices are available. A direct modulation may be effected by means of a secondary dominant or simply by starting a phrase in the new key, but the change may sound quite abrupt if it occurs without preparation or transition. Composers have devised a wide range of methods to facilitate smoother modulations.

KEY CONCEPT There are two main strategies for writing a seamless transition between two closely or distantly related keys, especially in Romantic-era music:

- modulation with one or more common tones, and
- modulation by chromatic sequence.

Along with these strategies, other techniques—such as chromatic inflection, mixture, and enharmonic reinterpretation—may be necessary to transform a chord in the first key to function well within the second key.

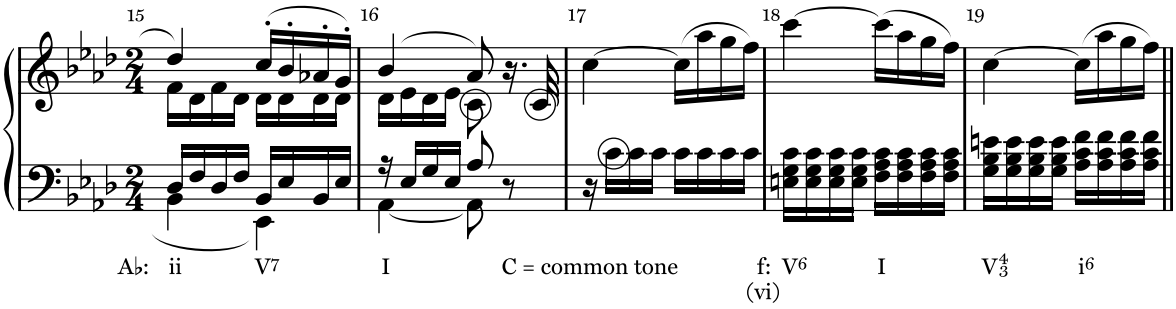
By Common Tone

Composers in the Romantic era continued to use pivot- (or common-) chord modulation between closely related keys. For

pairs of keys that did not share an entire diatonic triad but had chords with one, two, or three pitches in common, the common tones were held and the other pitches shifted up or down, usually by half step. This type of modulation is called a **common-tone** (or pivot-tone) **modulation** if only a single pitch is held between the two keys, and **common-dyad** (pivot-dyad) **modulation** if two pitches are held.

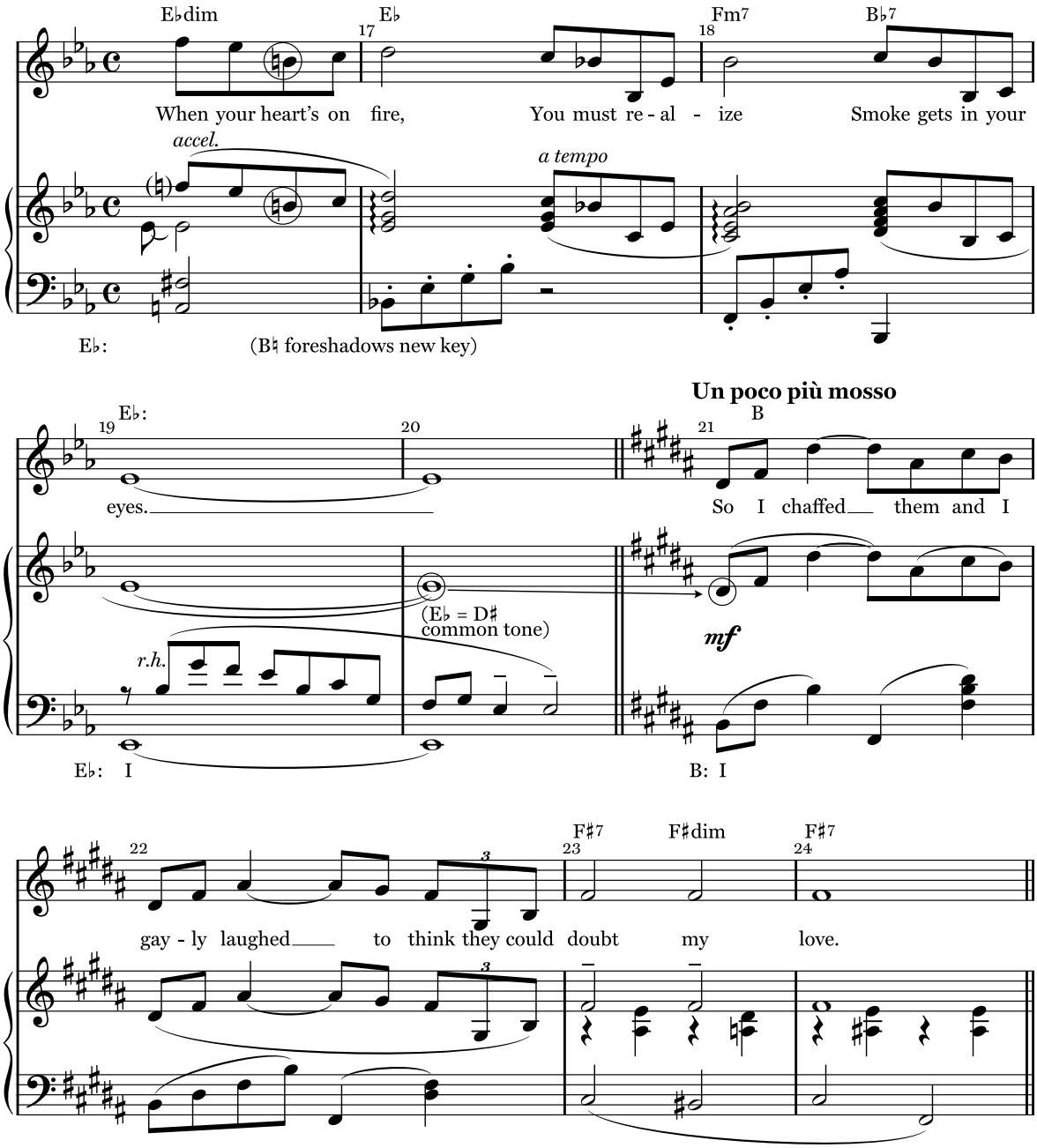
A single shared pitch is enough to make a smooth modulation to either a closely related or a more distant key. Listen to the short passage from the second movement of Beethoven's *Pathétique* Sonata shown in Example 31.1. Here, the C4 from the cadence in A♭ major in measure 16 becomes an anacrusis for the melody in measure 17, accompanied by a repeated C in the left hand. This isolation of a single pitch smooths the transition to F minor (vi in A♭), tonicized in 18–19. In this case, the keys A♭ major and F minor are closely related, but the example shows very clearly how the common tone modulation normally works: the common tone, typically a member of the initial tonic triad, is isolated after a cadence in the first key and sustained or repeated to make the connection to the new tonic.

EXAMPLE 31.1: Beethoven, *Pathétique* Sonata, mvt. 2, mm. 15–19



Now look at the excerpt from "Smoke Gets in Your Eyes" shown in Example 31.2. The first verse of the song cadences in measures 19–20 in E♭ major; the key for the following phrase is

B major, an enharmonic spelling of the chromatic submediant ♭VI, C♭ major. The connection to this distant key is made by the melody pitch E♭4 of measures 19–20, which seamlessly becomes D♯4 in the following measure. To foreshadow this modulation, Kern introduces the pitch class B (the new tonic) as a prominent embellishing tone in measure 16.

EXAMPLE 31.2: Kern and Harbach, "Smoke Gets in Your Eyes," mm. 16–24 (mm. 18–24 recorded)

SUMMARY

To connect the key of one section with a mixture-related or distant key in the next section, Romantic-era composers and beyond might end a phrase on the tonic chord of the first key, then let one chord member connect into the tonic chord of the following new key. Using a member of the tonic

triad in a major key as a common tone, it is possible to modulate to the following:

MEMBER OF TONIC TRIAD	CLOSELY RELATED KEYS	MIXTURE-RELATED KEYS (DISTANT)	OTHER DISTANT KEYS
root (î)	vi, IV	i, iv, ♭VI (or ♯V)	
third (ˆ3)	iii, vi		III, ♯i or ♭ii, VI
fifth (ˆ5)	V, iii	v, ♭III, i	

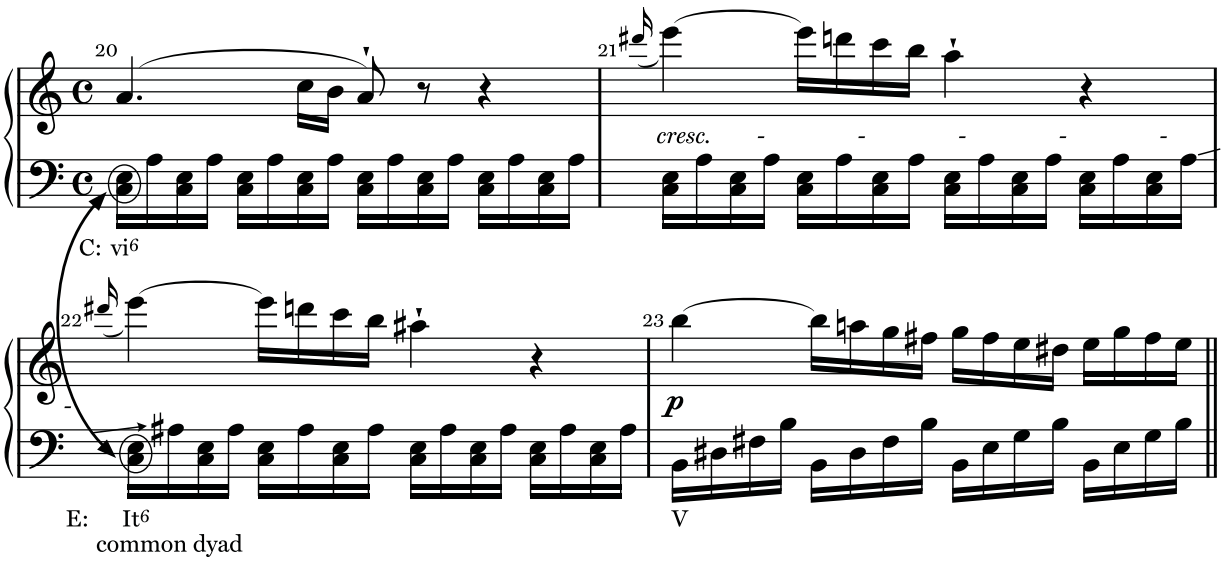
By Common Dyad and Chromatic Inflection

Sometimes the common element between two keys is a dyad instead of one pitch. Unlike the examples above, this type of connection usually occurs within a phrase—where two elements of a chord in the initial key form the basis of a different chord in the second key. The other members of the initial chord are then chromatically inflected (moved up or down by half step) to form the new chord. This technique works best when the chromatically inflected chord is a dominant seventh chord, secondary leading-tone chord, augmented-sixth chord, or some other type of harmony that has an expected resolution. The chromatic inflection heightens the forward momentum as it leads to the expected resolution in the new key.

For an example, listen to measures 18–30 of Beethoven's *Waldstein* Sonata while following the score in your anthology. This passage is part of a transition from the first key area, C major, to the second, E major—a chromatic mediant, quite a distant tonal area from C major. In measures 20–23 (Example 31.3), the harmony changes from C major to V of E major. The A minor first-inversion chord in 20–21 (C-E-A) moves in 22 to C-E-A♯, an Italian sixth in the key of E major, which then resolves normally to the B-D♯-F♯ chord in 23. Because the modulation is activated by the shift of one pitch by a half step, this type is sometimes called modulation by **chromatic inflection**, though

it also involves a common dyad. The chromatic motion here does not sound abrupt; rather, it seems an intensification of the drama already unfolding. And the blurring of the key by the sequence in measures 14–21 helps make this striking modulation seamless.

EXAMPLE 31.3: Beethoven, *Waldstein* Sonata, mvt. 1, mm. 20–23



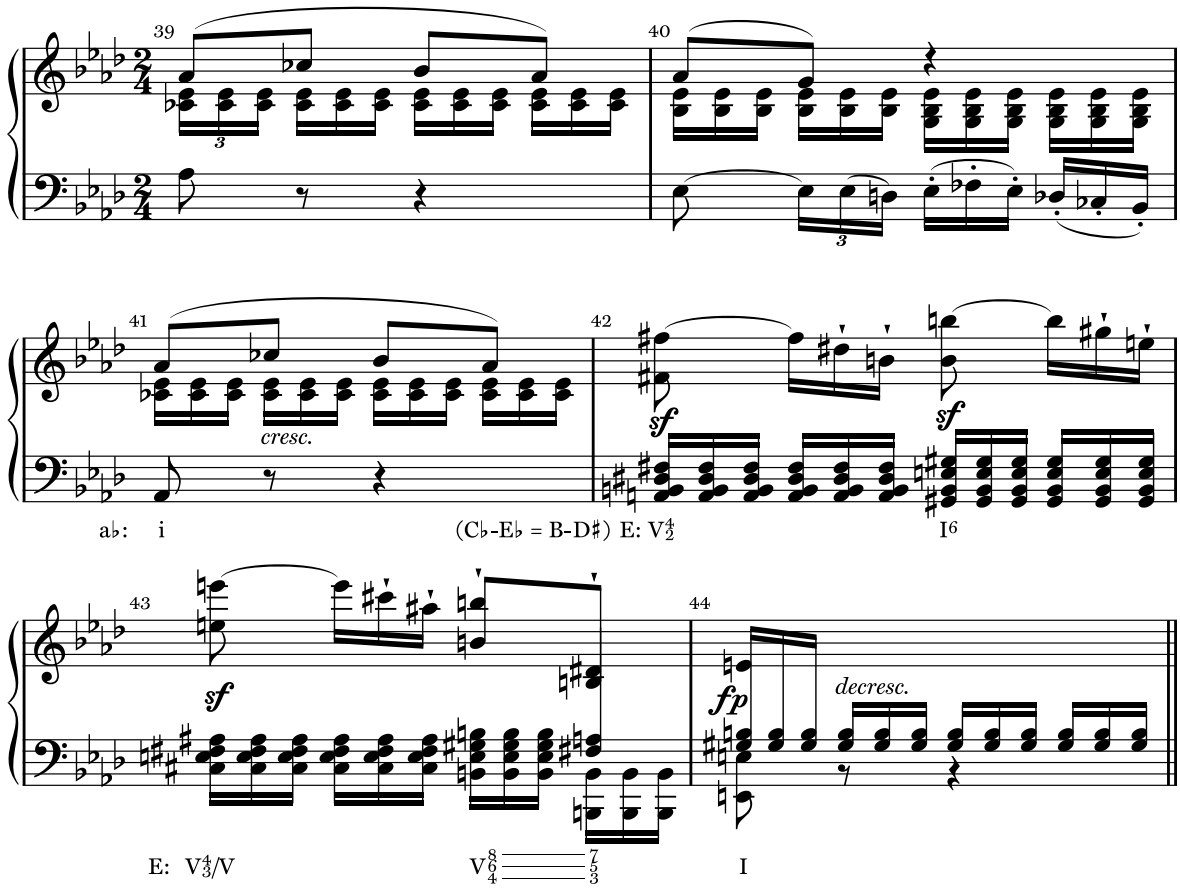
Through Mixture

Sometimes it is easier to modulate to a distantly related key by shifting first to the parallel major or minor key through mode mixture. This modulatory procedure depends on an intermediary chord that is a mixture chord in one of the keys and diatonic in the other.

KEY CONCEPT When a mixture chord acts as a pivot between two distantly related keys, one of the two keys will be closely related to the key of the mixture chord. Modulations that include a chromatic pivot chord—typically a mixture chord such

as i, ♭III, or ♭VI, or possibly a secondary dominant or leading-tone chord—are sometimes called **altered common-chord**, or **altered pivot-chord, modulations**.

The second movement of the *Pathétique* Sonata modulates from A♭ major to E major—the key of the mixture chord ♭VI (an enharmonically respelled ♯V)—but not with ♭VI as a pivot. Listen to the excerpt in Example 31.4, which begins in A♭ minor, a direct shift to the parallel minor from the A♭ major that preceded it. Measure 41 starts to repeat the motive from 37–40 when something unusual happens—look at all the sharps in measure 42! The chord on the downbeat of 42 is A–B–D♯–F♯, or $V^{\sharp}_{\frac{4}{2}}$ in E major, resolving to a first-inversion E major chord on beat 2 and leading to a cadence in measures 43–44 in E major. The move first to the parallel minor (A♭ minor) through mixture allowed for the common-dyad (enharmonically respelled: C♭-E♭ = B-D♯) modulation. One of the remaining pitches of the $V^{\sharp}_{\frac{4}{2}}$ is approached through chromatic inflection (A♭–A♮ in the bass), while the other is approached by whole step (A♭–G♭, with G♭ spelled as F♯) through a dramatic minor-seventh leap in the upper voice.

EXAMPLE 31.4: Beethoven, *Pathétique* Sonata, mvt. 2, mm. 39–44

Enharmonic Modulation with Augmented-Sixth Chords

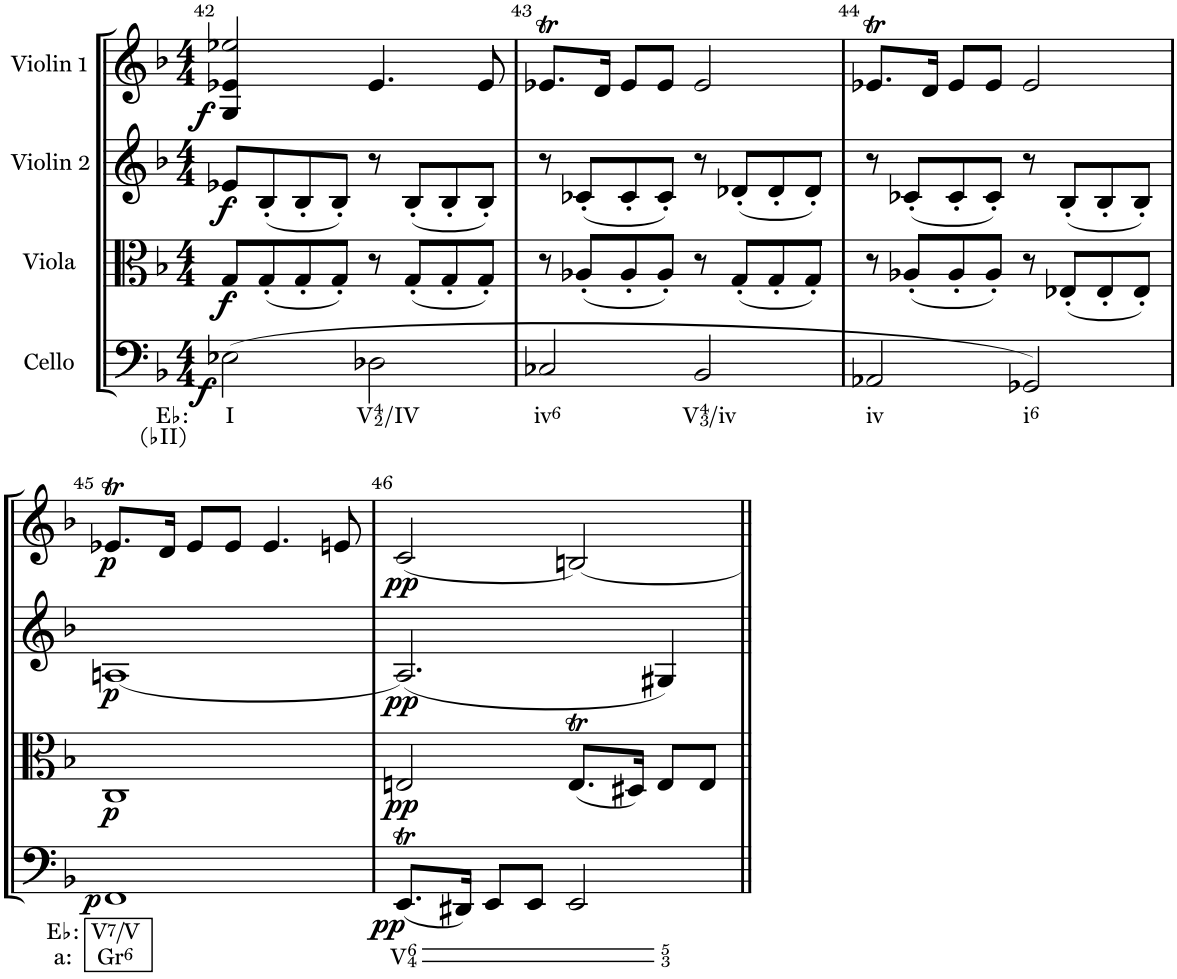
As is evident in the previous example, how a composer spells a chord has implications for how we expect it to resolve. There are several types of chords used in chromatic modulations where the entire chord is held in common, but the chord is enharmonically respelled to reflect a different expected resolution. For example, the Gr^6 is especially valuable in modulations: it sounds exactly like a dominant seventh chord, which can be resolved two or more ways depending on how it is spelled.

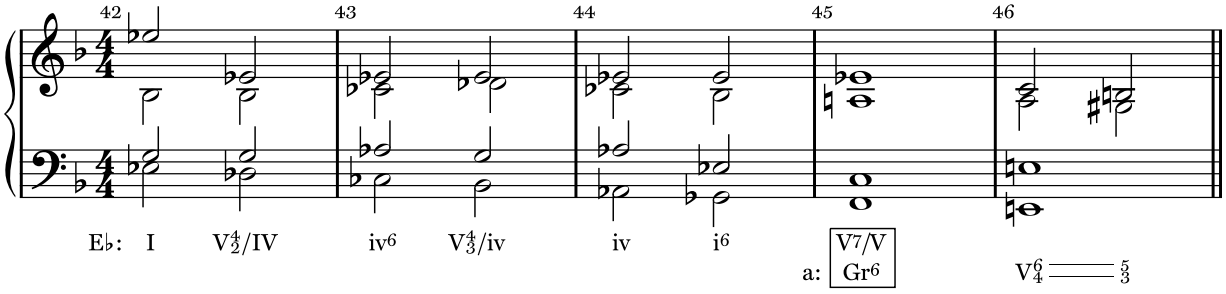
Look back at Example 31.3. If you weren't looking at the spelling of the chord in measure 22 but only listening to the passage, you might expect the chord to resolve as V7/IV in C, as though spelled C-E-(G)-B♭ (a dominant seventh chord in C). But

Beethoven's spelling, C-E-A♯ (an augmented-sixth chord), and the voice-leading of the chord's resolution move this passage toward the new tonal area of E major.

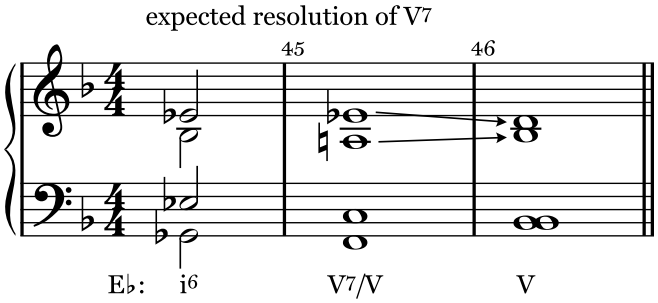
Now look at Example 31.5a, an excerpt from Mozart's String Quartet in D Minor. The key in measure 42 is E♭ major, the Neapolitan of D minor. This passage is heavily colored by mixture chords, including the minor subdominant and tonic, as shown in the reduction in part (b). We would expect the V7/V in E♭ major (m. 45) to resolve to a B♭ dominant harmony, yet it resolves instead to a cadential V^{6}_{4}–$^{5}_{3}$ in A minor.

EXAMPLE 31.5: Mozart, String Quartet in D Minor, mvt. 1

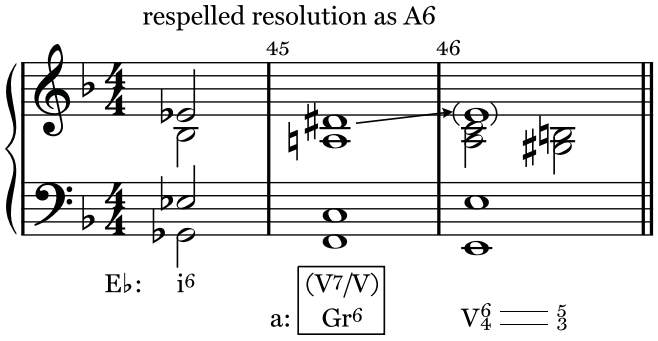
(a) Mm. 42–46

(b) Reduction of mm. 42–46



(c) Resolution of mm. 44–46 as V7



(d) Resolution of mm. 44–46 as Gr^6



Although this resolution sounds a bit surprising, it makes sense in retrospect. Part (c) shows the chords from measures 44–46 with the resolution we expect, while part (d) gives the measure 45 chord respelled as an augmented sixth—with D♯ instead of E♭. The modulation to A minor is confirmed when the passage continues in that key through measure 53.

In this type of modulation, called an **enharmonic modulation**, the entire contents of a chord are held in common between the first key and the second, with the chord respelled (or resolved as though respelled) in the second key. Because the harmonies resolve in ways that require reinterpretation (whether the resolutions are respelled or not), such progressions can also be called modulation through **enharmonic reinterpretation**.

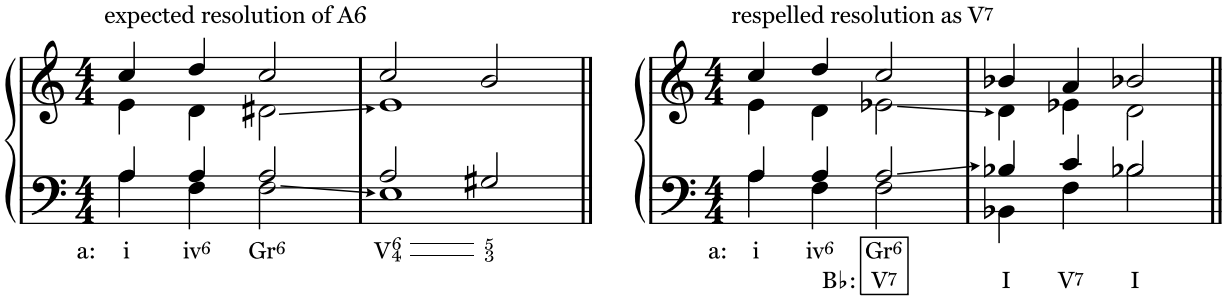
KEY CONCEPT Use enharmonic reinterpretation between Gr^6 chords and dominant sevenths to modulate to a new key a half step higher or lower than the original (Example 31.6).

- Up by half step: reinterpret a Gr^6 as a V^7; the ♯4̂ is respelled as the seventh of a V^7, and the V^7 then resolves to the tonic (part a).
- Down by half step: reinterpret a V^7 as a Gr^6; the seventh of the V^7 is respelled as ♯4̂ of a Gr^6, and the Gr^6 resolves to V in the new key (part b).
- Additional keys may be reached by interpreting the V^7 as a secondary dominant, rather than a diatonic chord in one of the keys (as in Example 31.5, for keys a tritone apart).

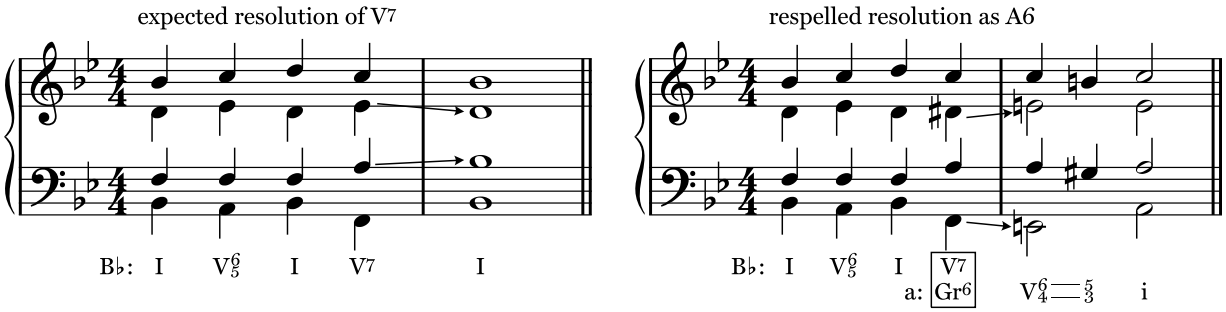
When you write enharmonic modulations, pay careful attention to accidentals in the new key. Play these examples to hear how the harmonic "deception" sets up the new tonic.

EXAMPLE 31.6: Enharmonic modulation with V^7 and Gr^6

(a) Enharmonic modulation up by half step



(b) Enharmonic modulation down by half step

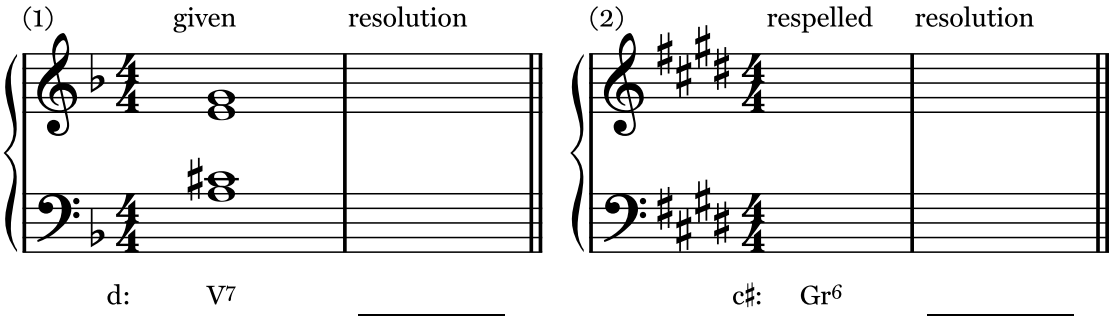


Try it #1

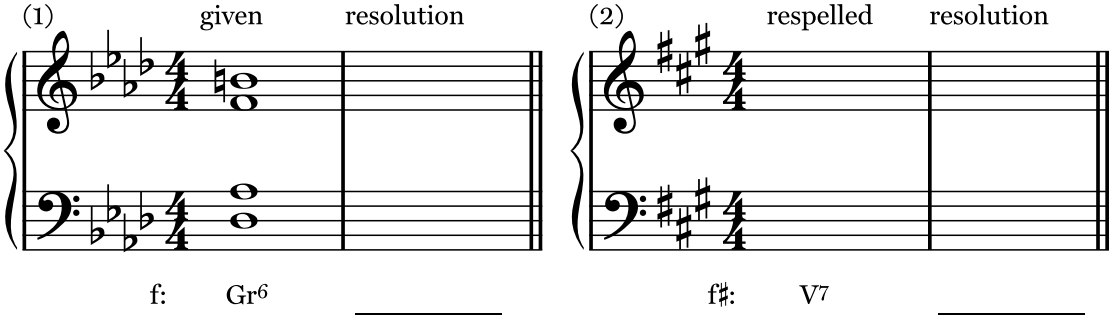
Write the requested V7 or Gr6 chord in each progression, and resolve it normally. Then respell the chord as requested in the given key, and resolve it normally. Use primarily whole notes. Avoid parallel fifths in resolving the Gr6 by writing a V6/4 — 5/3 in half notes.

Show answers

A.



B.

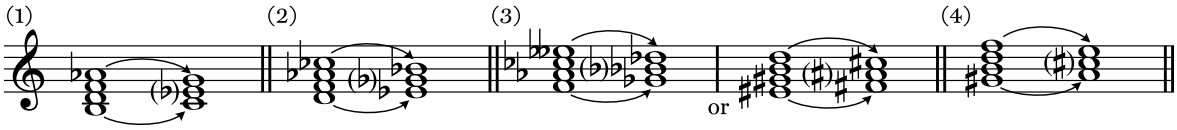


Enharmonic Modulation with Diminished Seventh Chords

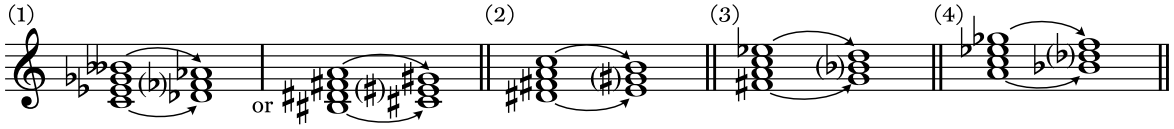
The vii$^{\circ 7}$ chord is an even more flexible means of enharmonic modulation: it may potentially resolve in four different ways (to either a major or minor "temporary tonic"), depending on how it is spelled. Because it is constructed of all minor thirds, any of its four pitches may serve as the root. For example, a B diminished seventh, if spelled with B as the root (Example 31.7a, part 1), can resolve to either C major or C minor; if spelled with D as the root (part 2), it resolves to either E♭ major or E♭ minor, and so on. Parts (b) and (c) show the other possible vii$^{\circ 7}$ sonorities; all possible $^{\circ 7}$ chords are represented in the example. In addition, in music of the Romantic era you may see a voice-leading shift from one vii$^{\circ 7}$ up or down a half step to a second vii$^{\circ 7}$ before the chord resolves to a new key.

EXAMPLE 31.7: Diminished seventh chords and their possible resolutions

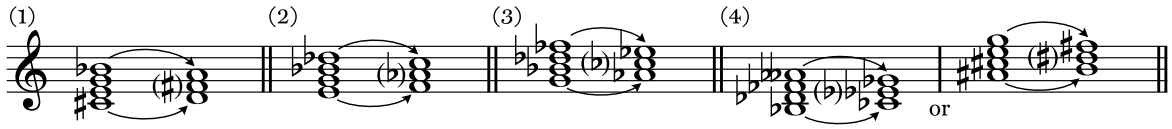
(a) On B



(b) On C



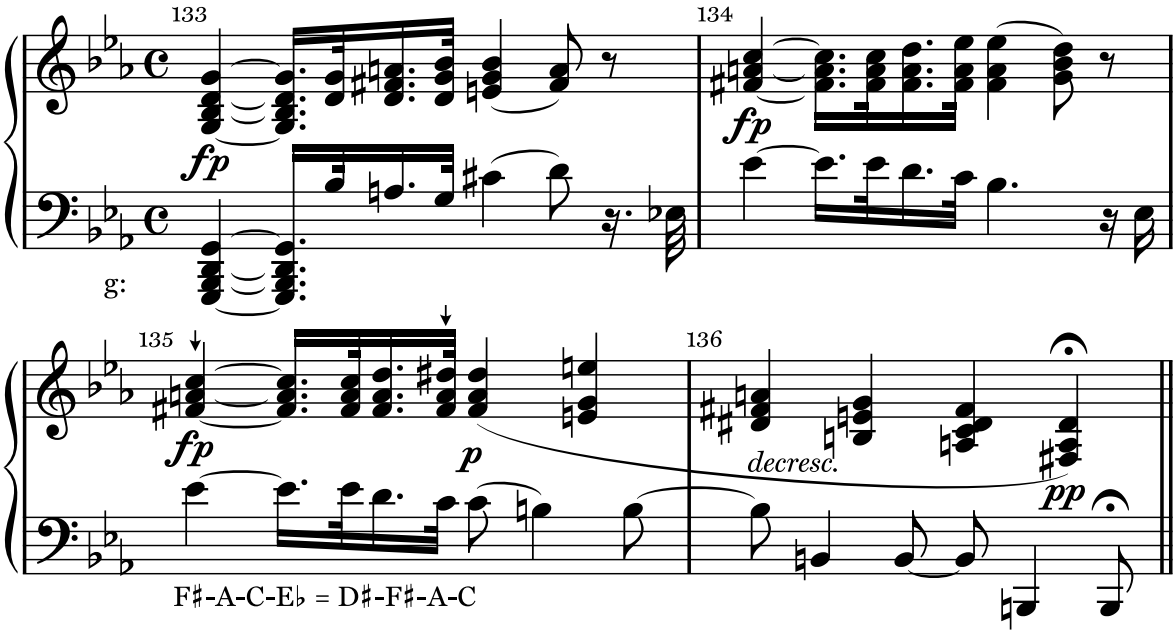
(c) On C♯



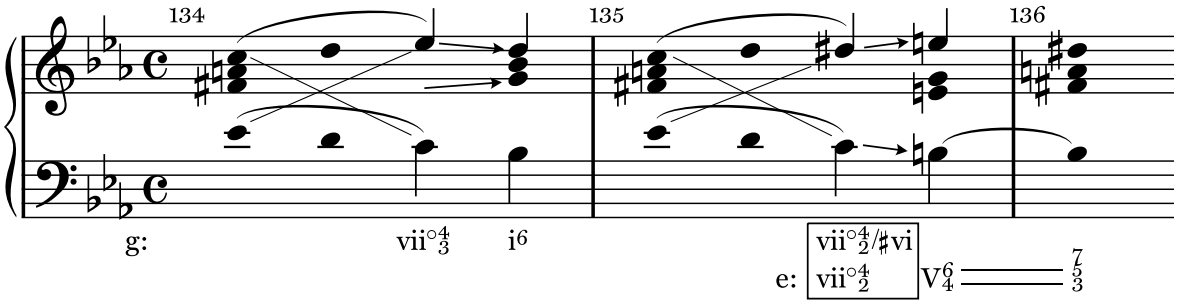
The diminished seventh chord can also serve as a secondary leading-tone chord to modulate to any major or minor key. For an example of such an enharmonic modulation, look at Example 31.8a, a passage beginning in G minor. In measure 134, an F♯-A-C-E♭ diminished seventh chord resolves to G-B♭-D after a voice exchange involving C and E♭ in the highest and lowest parts. The motive is repeated in measure 135, but the F♯-A-C-E♭ is respelled D♯-F♯-A-C on the third beat, and now resolves to a cadential $\frac{6}{4}$ in the key of E minor—the chromatic submediant of G minor. Play through the reduction in part (b) several times to hear the effect of the different resolutions of the vii°7 chord.

EXAMPLE 31.8: Beethoven, *Pathétique* Sonata, mvt. 1

(a) Mm. 133–136



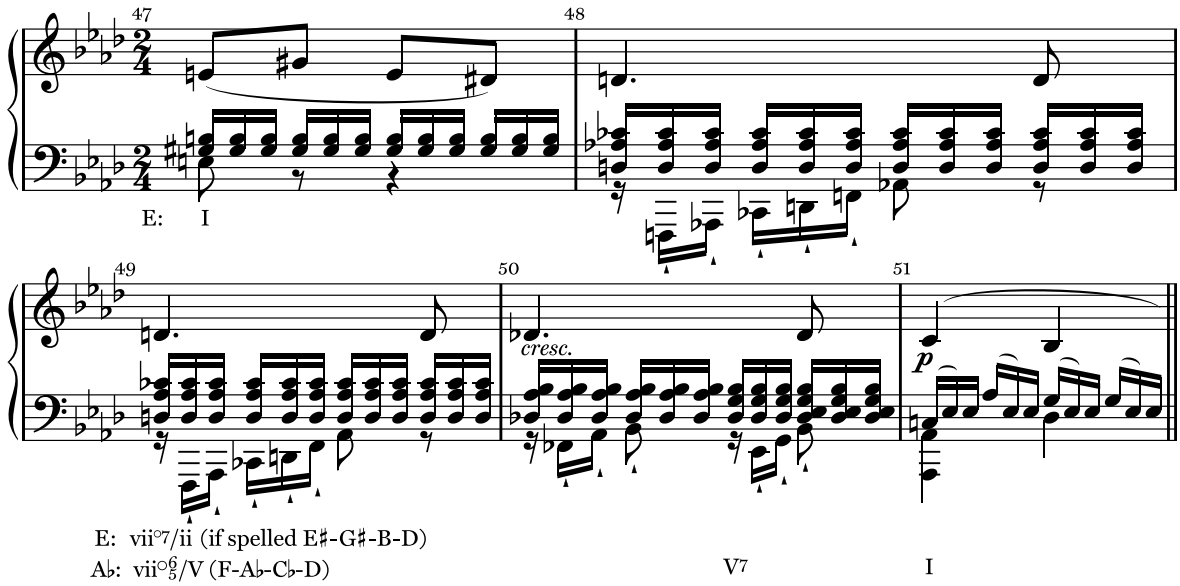
(b) Reduction of mm. 134–136



KEY CONCEPT A diminished seventh chord used as an enharmonic pivot chord can be spelled as it functions in either the first or second key. It may also appear twice, spelled once each way (Example 31.8). The enharmonically respelled chord can be used to modulate to ♭III or ♭iii, ♭V (♯IV) or ♭v (♯iv), and VI or vi.

Sometimes modulations involve a combination of techniques. Listen to the modulation in measures 49–50 of Example 31.9, the transition from E major (F♭ major) back to A♭ major.

EXAMPLE 31.9: Beethoven, *Pathétique* Sonata, mvt. 2, mm. 47–51



The chord in measure 47, an E major triad, is followed by a diminished seventh chord (D-F-A♭-C♭) in 48–49. This chord might be heard as vii°7/ii in the old key of E major or as vii°6/5/V in the new key of A♭. The chord that begins measure 50, a half-diminished seventh (B♭-D♭-F♭-A♭), is approached from the D-F-A♭-C♭ chord by holding the common tone, A♭, and moving the other voices down by half step. This B♭ half-diminished chord typically functions as vii⌀7 in C♭ major, but it does not resolve that way here; instead, the B♭ and D♭ are held as a common dyad, and F♭ and A♭ both move down a half step, forming an E♭-G-B♭-D♭ chord (V7 of A♭ major) on beat 2.

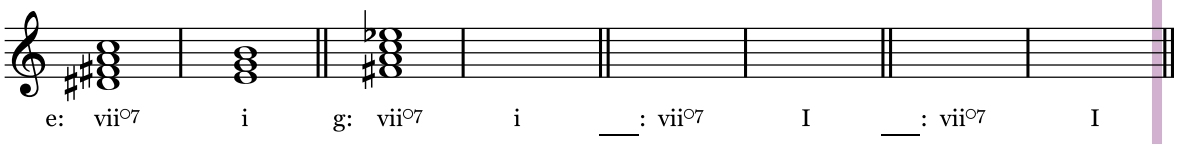
As should be clear, the Romantic era brought many ways to modulate, especially between distant keys. When you come across a modulation in music you are analyzing or performing, listen carefully to the passage, then examine the evidence with the techniques you have learned. With patience, you should be able to solve the puzzle.

Try it #2

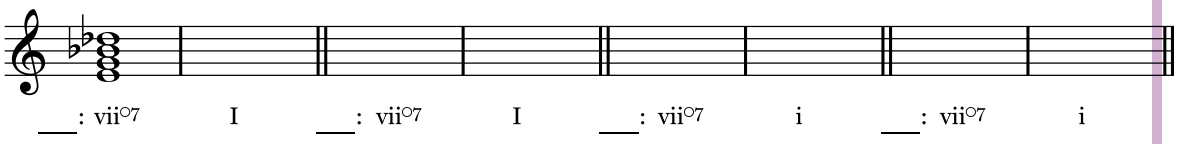
Resolve the given diminished seventh chord in (1) to i or I, as shown. Then invert the chord and respell it enharmonically in (2)–(4) so

Show answers

that each note in turn of the original chord is the root. Resolve each chord to its tonic (i or I). In the blanks, write the key of the tonic to which each respelled chord resolves.

A. (1) given resolution (2) respelled resolution (3) respelled resolution (4) respelled resolution

e: vii°7 i g: vii°7 i ___: vii°7 I ___: vii°7 I

B. (1) given resolution (2) respelled resolution (3) respelled resolution (4) respelled resolution



___: vii°7 I ___: vii°7 I ___: vii°7 i ___: vii°7 i

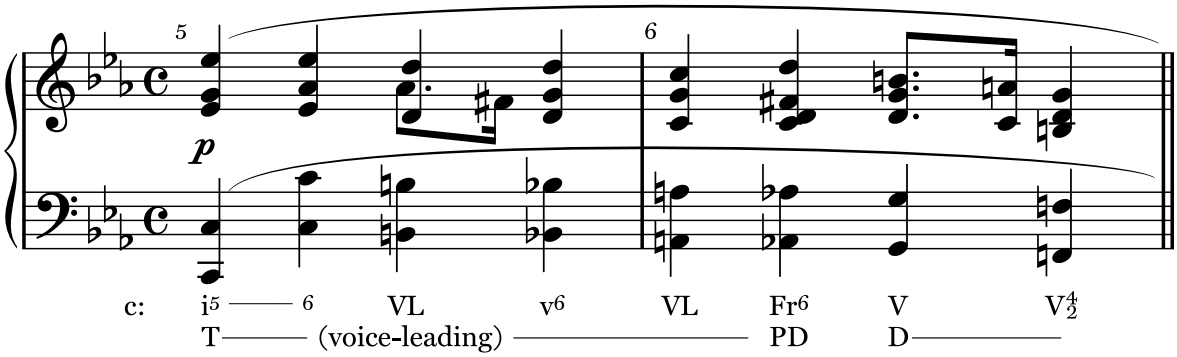
Linear Chromaticism

Chromaticism and Voice-Leading Chords

Many types of passing and neighboring chords may be created by combining embellishing tones into **voice-leading chords** (VL) that expand a functional harmony, a type of **linear chromaticism**. Since there are too many possible chords of this type for each one to have a specific name, we refer to them as a category by this term (VL), but you may also see them called linear chords, apparent chords, or embellishing chords. There are times when it makes sense simply to label the individual embellishments, instead of considering the "chord" they make—particularly if their duration is less than the prevailing harmonic rhythm, or if they are metrically unaccented. A contextual analysis will clarify the musical contexts for these sonorities.

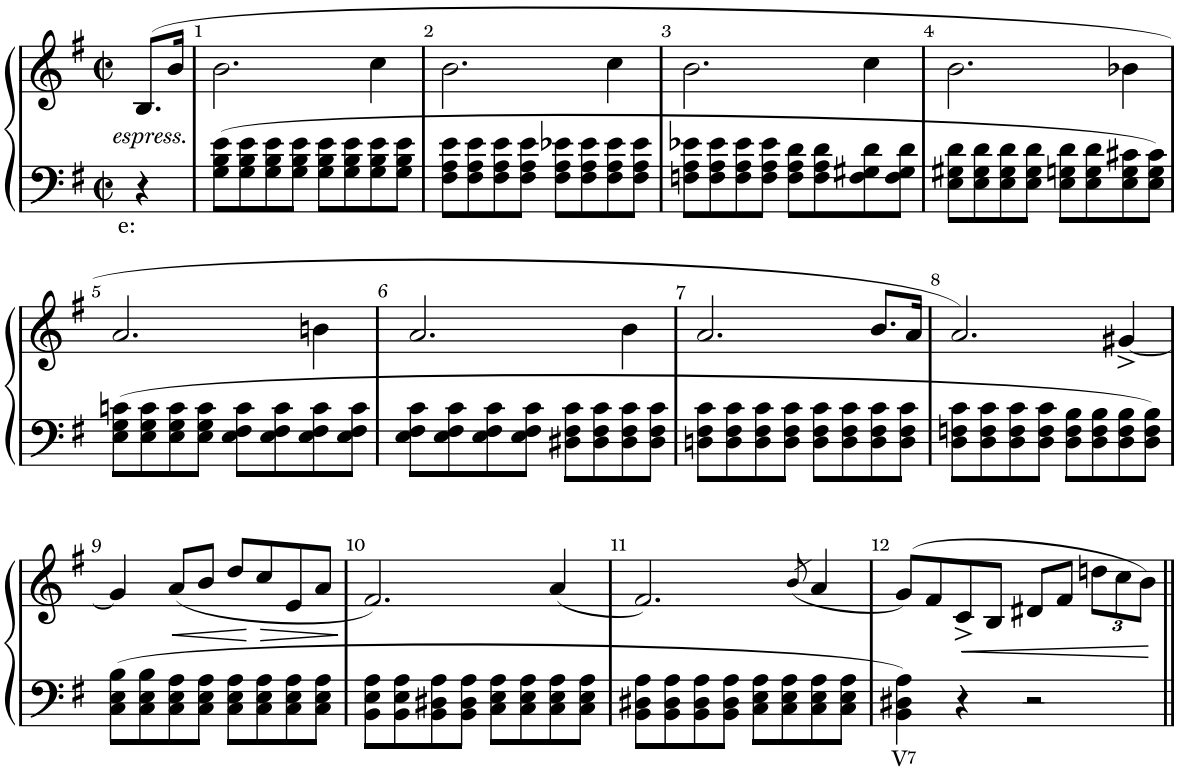
For an example, look at the passage from a Chopin prelude in Example 31.13. The chords on beats 1, 2, and 4 in measure 5 are i^{5-6} and v^6 (or alternatively, i–VI^6–v^6). As for the third chord, we can best explain it by considering the relationship of each of its pitches to those of the chords on either side. The bass is an octave-doubled chromatic passing tone. The soprano and tenor parts are shared with the chord that follows, and the alto skips from A♭ (a pitch in the previous chord) to F♯, making a kind of double neighbor around the G to which it resolves on beat 4. Each individual voice makes sense in the context, but if we stack this simultaneity in thirds, we get B-D-F♯-A♭, a very bizarre seventh chord. Another interpretation of the chord is to hear the embellished motion from A♭ to G in the alto as a 7–6 suspension with a chromatic change of bass.

EXAMPLE 31.13: Chopin, Prelude in C Minor, mm. 5–6



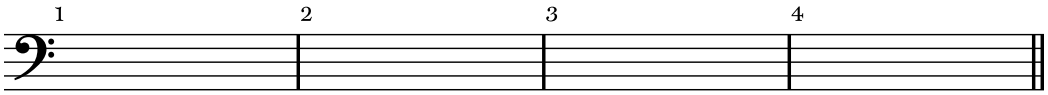
The first chord in measure 6 is also linear in origin, and can be interpreted as a tonic chord with a passing tone in the bass. Harmonic analysis with Roman numerals in these cases may not provide much useful information beyond what is gleaned from analyzing the embellishments. If you like, write "linear" (or VL) in the analysis, then label the embellishments in the score.

Some Romantic composers took the voice-leading idea even further, writing pieces where long spans of music consist of linear chords held together by their smooth, chromatic voice-leading without much, if any, sense of progression or root motion. For a famous example, listen to Chopin's Prelude in E Minor, whose opening phrase is given in Example 31.14. Only at the beginning and end of the phrase are there clearly functional harmonic progressions.

EXAMPLE 31.14: Chopin, Prelude in E Minor, mm. 1–12

Try it #3

Write the chords in measures 1–4 of Example 31.14 on the staff below, and determine their quality and inversion. Include pitches from the right-hand melody only where they seem to fit in the chord; the others should be considered embellishing tones. What chord qualities can you identify? Do any resolve correctly?

Show answers



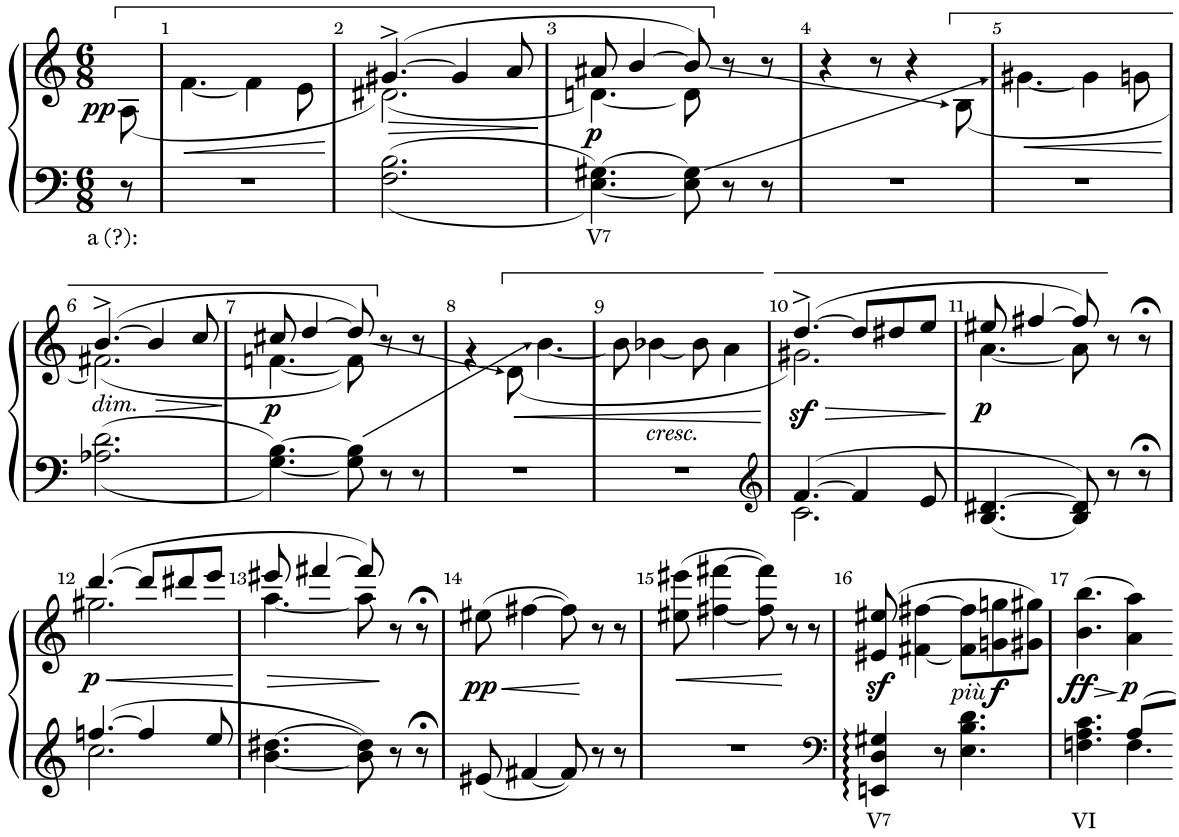
While providing a Roman numeral analysis is good practice for identifying chord types, such an analysis does not explain much about this passage other than the general qualities of the sounds. Concentrate rather on the linear motion. The melody in the right hand prolongs a B4 with a neighboring C5 in measures 1–4, then descends via a passing-tone B♭4 to prolong A4 in

measures 5–8 with a neighboring B4. A skip from A4 in measure 8 to F♯4 in measure 10 is embellished in 8–9 and reiterated in 10–11. The basic strategy for both the melody and accompanying harmonies seems to be a gradual descent from the i chord at the beginning to the V7 in measure 12. While the descent in the melody is primarily diatonic, though, the descent in the left hand is primarily chromatic, with voices taking turns moving chromatically downward.

We have tried to draw a balance between discussing "strength of progression" (that is, passages with strong root-based chord progressions) and "strength of line" (passages with less strong root movement, but smooth linear connections between chords). The chord patterns in the Chopin prelude do not make much sense from a root-progression standpoint, yet the strength of line—in particular, voice-leading based on chromatic half steps—makes this phrase work musically.

Intentional Harmonic Ambiguity

Harmonic ambiguity like that found in the Chopin prelude is often used in songs to express multiple meanings of the text, and is an important element in Romantic-era opera. Perhaps the most famous intentionally ambiguous passage in Romantic music is the opening of the Prelude to Richard Wagner's opera *Tristan und Isolde* (Example 31.15). Examine this passage for clues regarding key areas.

EXAMPLE 31.15: Wagner, Prelude to *Tristan und Isolde*, mm. 1–17

Measures 1–3 and 4–7 form a sequence, with the entire texture transposed up a minor third except for the anacrusis (perhaps to make the first two pitches in mm. 4–5 match the B-G♯ in m. 3). Since the Prelude begins with A3 and measure 3 ends with an E dominant seventh chord, the opening could imply A minor. Yet this opening is quite ambiguous—by measure 7, no key has been established as a point of departure.

The third presentation of the sequence pattern, in measures 8–11, is not an exact transposition. It begins with the anacrusis transposed up a minor third from the previous pattern, again matching pitch classes in the last chord of measure 7. But the next portion is expanded, with notes added as it strives forward and upward. Measures 12–15 then simply reiterate 10–11 in a truncated form. In 16–17, the first standard cadence, an E dominant seventh resolves deceptively to an F major triad. Does that mean the piece is in A minor? Clearly the ambiguity of harmony and key is a musical depiction of unfulfilled desire

or longing, and it prepares the listener beautifully for the drama between two lovers that follows.

Analyzing and Performing Chromatic Passages

When you find chromaticism in a piece you are analyzing or performing, think about whether it represents a surface embellishment, a change of chord quality, or a change in chord function.

- Can the chromatic pitches be attributed to embellishing (e.g., passing or neighbor) tones? These are basically surface events and may not imply a harmonic function or need resolution, but they may foreshadow additional chromaticism later in the piece or may create chromatic VL chords.
- Do the chromatic pitches change the quality of the chords, indicating mixture or other identifiable chords such as Neapolitan or augmented-sixth chords? These can serve as substitutes for diatonic chords within the basic phrase, adding color and drama to the progression.
- Do the chromatic pitches create secondary dominant or leading-tone chords? Do they create chromatic descending-fifth sequences? These may change the direction of the phrase by tonicization or modulation.

Substituting a chromatic chord for a diatonic one can intensify the sense of forward motion or signal a change of mood, which performers might highlight through a change of tone color. It is vitally important to the character of the music and its sense of direction that chromatic alterations be performed in tune.

Passages that are in their very essence chromatic and linear can present quite a challenge to the analyst and performer both. In studying such a passage, determine the harmonic points of arrival and shape your performance toward them. Establish which embellishments affect the underlying harmonic

progression and which are ornamental. Identify the quality of each sonority, and determine whether dominant-function seventh chords or A6 chords resolve as expected, resolve deceptively, tonicize scale degrees, or initiate new keys. Locate sequences and transitory or modulatory passages. All this information will help you identify a hierarchy of musical function.

Finally, when analyzing pieces that include chromatic voice-leading, don't forget to listen. In pieces like the Chopin prelude, there are some progressions that sound (and are) functional—label those first, then listen attentively to the rest. Careful analysis of some chromatic musical surfaces may reveal a relatively simple underlying diatonic progression, which you can convey through performance; other passages may rely almost entirely on harmonic ambiguity. It is your job as musical interpreter to determine which view to present.

Did You Know?

The opera *Tristan und Isolde* was composed in 1865–69 by Richard Wagner, but the story of Tristan and Isolde dates back to the Middle Ages and Renaissance, when it was a well-known and often-retold romance. For his setting, Wagner relied on Gottfried von Strassburg's poetic retelling of the story, with the traditional characters placed in a courtly setting. For other operas—including the *Ring of the Nibelung* cycle and *Parsifal*—Wagner based his librettos on tales set in poetry by medieval Germanic poets. The rediscovery of these early poems was influential on the German Romantic movement.

The story of *Tristan und Isolde* is one of intense love and passion, but each time there is an opportunity for the lovers to be together, they are separated. To represent the theme of unfulfilled love, Wagner composed progressions that

repeatedly lead toward a cadence that is evaded at the last moment, with the dissonant intervals instead moving linearly to form another dissonant chord. It becomes clear in the course of the opera that Tristan and Isolde will only be permanently united in death; during the “Liebestod” (the “love-death”), a final aria that Isolde sings over the body of Tristan just before dying of grief herself, the series of dissonances set in motion at the very beginning of the Prelude (Example 31.15) finally finds resolution.

TERMS YOU SHOULD KNOW

chromatic inflection
chromatic modulation
- altered common-chord
- altered pivot-chord
- common-dyad
- common-tone
- enharmonic
- pivot-dyad

enharmonic reinterpretation
intentional harmonic ambiguity
linear chromaticism
voice-leading chord (VL)

QUESTIONS FOR REVIEW

1. How may the principle of diatonic pivot-chord modulations be expanded to modulate to distant keys?
2. How can mixture smooth a modulation to a distant key?
3. How may a chromatic descending-fifth sequence be used to modulate?
4. Chords of what quality are suitable for enharmonic reinterpretation?
5. List as many ways to modulate from C major to A♭ major as you can.
6. In music for your own instrument, find a Romantic-era piece with one of the following: (a) common-tone or -dyad modulation, (b) a modulation with an altered pivot chord, (c)

a modulation with enharmonic reinterpretation. If this proves difficult for your instrument, check the piano repertoire.

7. How does the function of chromatic elements affect the way they should be interpreted in performance?

Know It? Show It!

Focus by working through the tutorials.

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32 Sonata, Sonatina, and Concerto

Outline

Sonatas and sonata form

Classical sonata form
- The first large section: Exposition
- The second large section: Development and recapitulation

Sonata form in the Romantic era
- Increasing length and complexity
- Key areas and the organization of the exposition
- The development section
- The recapitulation and coda

Related forms
- Sonatina
- Concerto form

Performing and listening to sonata-form movements

Overview

The focus of this chapter is sonata form. We consider the roles of melody and harmony in shaping a sonata-form movement, and observe how sonata form changed from the Classical to the

Romantic era. We also examine two related forms: sonatina and concerto.

Repertoire

Ludwig van Beethoven, Piano Sonata in C Major, Op. 53 (*Waldstein*), mvt. 1
Muzio Clementi, Sonatina in C Major, Op. 36, No. 1, mvt. 1
Joseph Haydn, Concerto for Corno di caccia in D Major, mvt. 1
Wolfgang Amadeus Mozart, Piano Sonata in G Major, K. 283, mvt. 1

Sonatas and Sonata Form

The term **sonata** technically refers to a composition for instruments, yet its meaning has changed over time. In the Classical and Romantic eras, a sonata is a multimovement composition for piano, or piano and solo instrument, usually in three or four movements. The first is almost always in **sonata form**, sometimes called **sonata-allegro form** after the standard tempo marking for such movements; the second is usually slow; and the last movement (third or fourth) may be in rondo, sonata, or sonata-rondo form. Though first movements of symphonies, string quartets, and other chamber pieces may also be cast in a sonata form, in this chapter we will focus on the sonata-form movement for piano.

There are several Baroque compositions called "sonata" in the anthology—these include works consisting of a prelude followed by a series of movements (often binary forms) for a small group of instruments, such as the Corelli Sonata in D Minor and Trio Sonata in A Minor. In form and style, though, they are quite different from what came to be known in the Classical era as sonata form.

Classical Sonata Form

Listen to the entire first movement (*Allegro*) of Mozart's three-movement Sonata in G Major, while following the score in your anthology. Think about the overall formal organization, and listen for cadences, which often mark the end of formal divisions; indicate in the score where you hear sections beginning or ending. Label any material that reappears later in the movement, and write the measure numbers of where you first heard these themes or motives. As you read this chapter, keep your score and recording at hand to see and hear each new element under discussion.

While you were listening, you may have noticed some musical clues to the movement's formal boundaries. One obvious clue is the repeat signs—at measure 53 to indicate a repeat of measures 1–53, and at the end to indicate a repeat of 54–120. The movement seems to resemble a large-scale continuous rounded binary form.

The First Large Section: Exposition

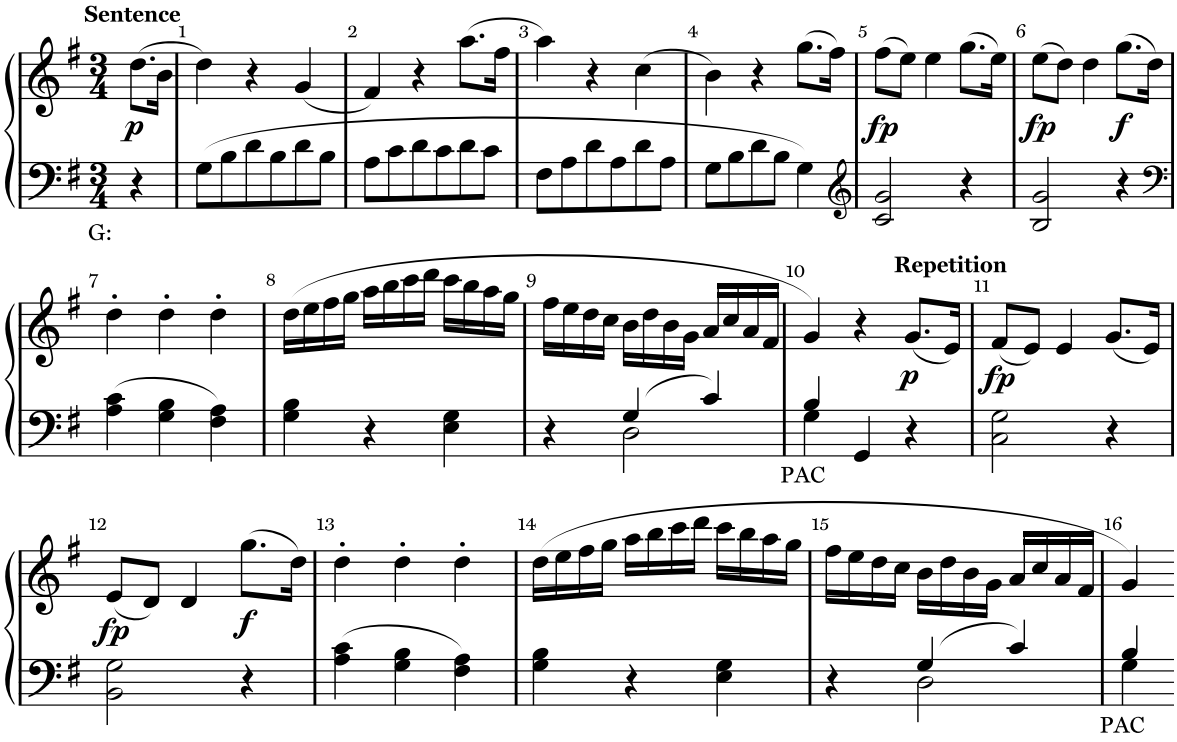
The first section in a sonata-form movement (here, mm. 1–53) is called the exposition.

KEY CONCEPT In the **exposition**, themes and motives for the entire movement are "exposed" for the first time. Its structure is in three parts: (1) opening material in the tonic key; (2) a modulatory passage that leads to a second key; and (3) new material in the second key, leading to a strong cadence ("expositional closure") in that key.

This exposition's first phrase (Example 32.1) is a sentence (2+2+6) that establishes the key of G major; with its triple meter and Alberti bass, it may be invoking a minuet musical topic. The second half of the phrase (mm. 5–10) is extended beyond the expected cadence in measure 8, with scalar flourishes in the right hand that lead to a PAC in measure 10. This second half is then repeated with slight variations, bringing the opening idea to its conclusion in measure 16.

EXAMPLE 32.1: Mozart, Piano Sonata in G Major, mvt. 1, mm. 1–16

First theme group (FTG)

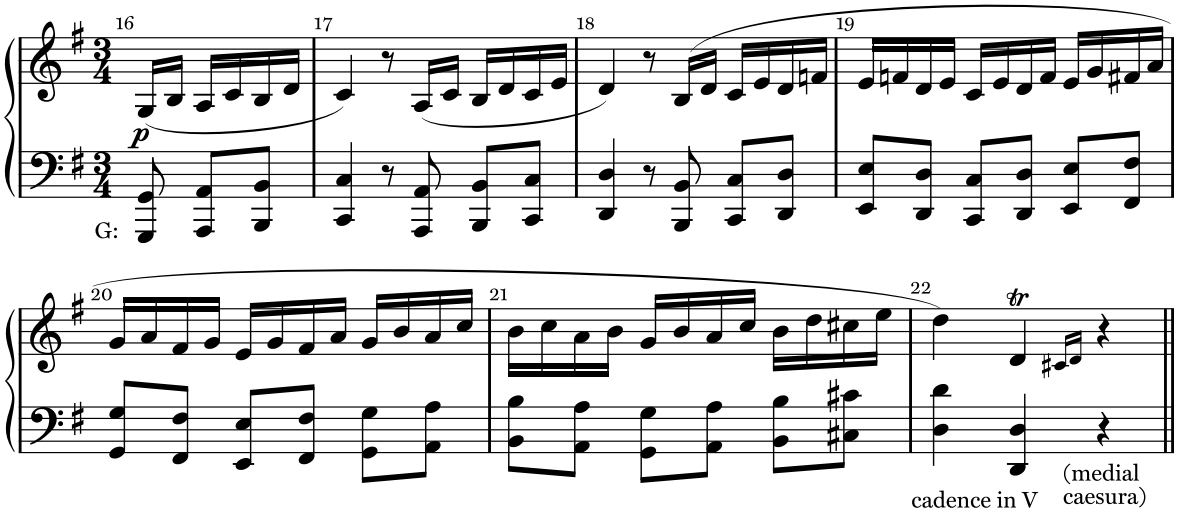


In sonata form, this opening musical idea in the tonic is often called the **first theme** (**FT**), or **primary theme** (**P** or **PT**). We prefer **first theme group** (**FTG**), which indicates that the

section may consist of more than one thematic idea (as it does here), but expresses the tonic key throughout. Another possible term, "first tonal area" (FTA) focuses on the harmonic scheme.

The next significant cadence comes in measure 22 (Example 32.2). This cadence could be interpreted as a HC preceded by a secondary dominant (a tonicized half cadence), but the music continues in the new key of D major, as evidenced by the consistent presence of C♯ in the following measures and by cadences in D through measure 53. Measures 16–22 therefore have a transitional and modulatory function.

EXAMPLE 32.2: Mozart sonata, mm. 16–22

Transition (TR)

KEY CONCEPT **Transitions** (TR) lead from the first theme group to a cadence that prepares a second key area. They are usually sequential and modulatory, and may express an increase in momentum and volume as they lead to the second key area. The end of the transition may be marked by an abrupt

silence, called a **medial caesura** (MC—"caesura" means "pause"), sometimes preceded by a dramatic chord or octave leap. If there is a medial caesura, it divides the exposition into two parts; if there is none, the section can be called a "continuous exposition."

Transitions that incorporate motives from the first theme are called **dependent transitions**, while those that introduce new material are **independent transitions**. Mozart's transition is independent and consists of two short melodic sequences—measures 16–19 and 19–21—with a modulation at the end of the second and a medial caesura in measure 22.

With a dependent transition, it may be difficult to decide where the first theme group ends and the transition begins—after all, they use the same thematic material. Listen for tonal function: if the passage sounds like it is leaving the tonic key, it is transitional. Independent transitions can be identified by the change in melodic material and by sequential activity, even when the modulation is delayed until the very end.

Measures 23–53, in the key of D major, constitute the second tonal area, or second theme group. (Other possible terms include "secondary theme" (S) or "subordinate theme.")

KEY CONCEPT The **second theme group** (STG) typically divides into a number of themes that may seem unrelated, except for the fact that they are in a single key: usually the dominant or, in minor keys, the relative major. Once an authentic cadence in the secondary key is reached, the tonal goal of the STG is complete, although closing material (or a closing theme) may follow.

The first and second theme groups *always* contrast in key, and may present themes with contrasting moods. In some early sonata-form movements, particularly those of Haydn, the first

and second themes are quite similar, differing primarily in their keys; sonatas like this are called "monothematic."

SUMMARY

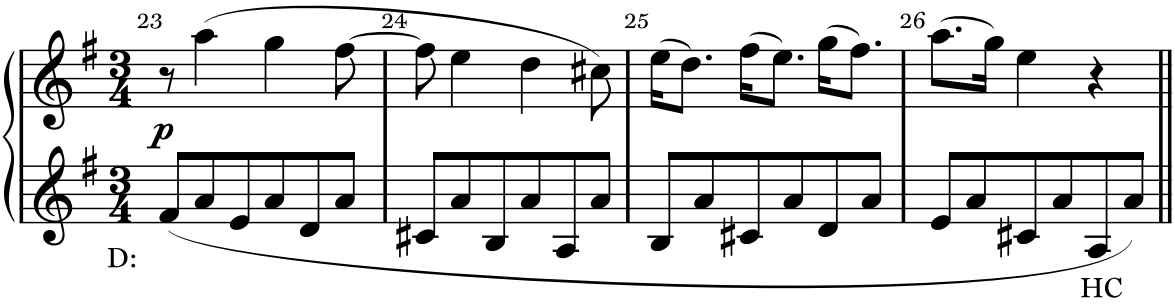
The first large section of a major-key sonata form (the exposition) usually has two main parts, defined primarily by their key relationship:

- The first theme group expresses the tonic and the second theme group (most often) the dominant.
- The first theme group is usually shorter than the second, and the second may be divided into several thematic units.
- The transition section modulates between the two groups and may end with a medial caesura.

Mozart's second theme group is a good illustration of how several short thematic ideas—some stable melodies, others more transitional in nature—can work together in a single unified key area. Measures 23–31 present a syncopated lyrical melody that is clearly in D major. The first phrase of this theme, 23–26 (Example 32.3), ends with a half cadence; then the phrase is repeated and varied in 27–30, also ending with a HC.

EXAMPLE 32.3: Mozart sonata, mm. 23–26

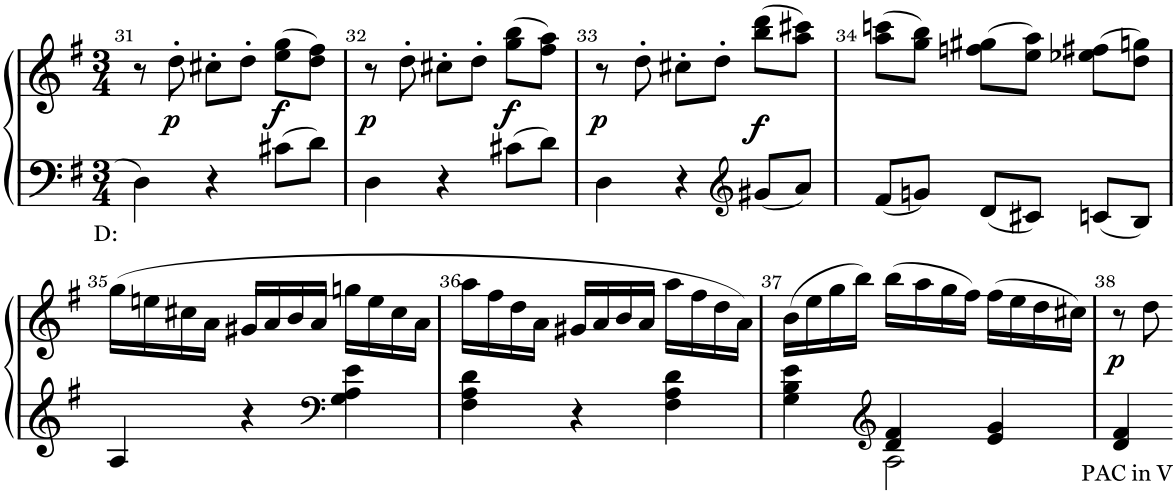
Second theme group (STG)



Measures 31–34 (Example 32.4) exhibit a transitional character because of the repeated motive and secondary leading-tone chords, but they do not modulate. A second melodic idea follows, still in D major (35–38); and 38–43 are a varied repetition of 33–38. With the substantial PAC in D in measure 43 (repeated from m. 38), the STG's tonal motion is complete.

EXAMPLE 32.4: Mozart sonata, mm. 31–38

Second theme group (continued)

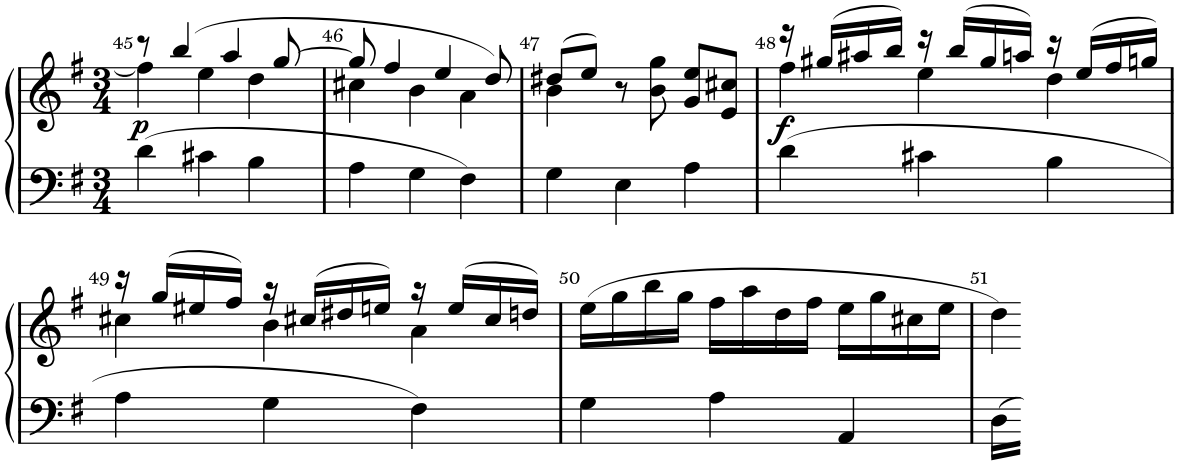


Measures 43–44, based on a motive from the transition (mm. 16–18), then connect to a final theme in 45–51 (Example 32.5). Some analysts consider a new idea at the end of the exposition,

following a PAC in the second key, a **closing theme** (**CT**); others call it another subsection within the STG. We will refer to it as a CT, understanding it as part of the STG.

EXAMPLE 32.5: Mozart sonata, mm. 45–51

Closing theme (CT)

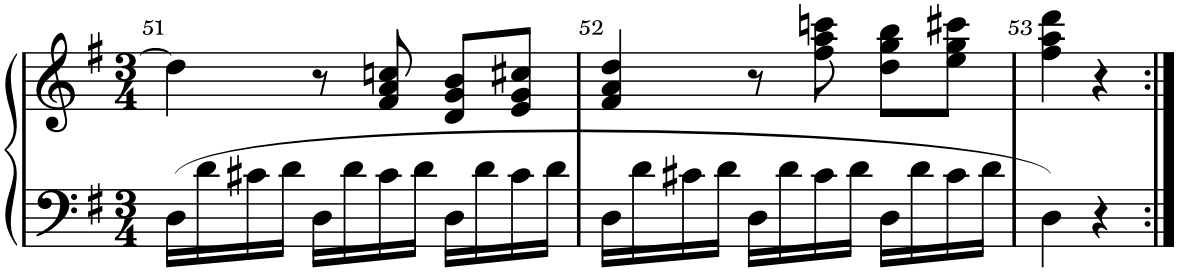


In sonata-form movements of the late Romantic era, the closing theme may appear in a third key area, and may include more than one distinct melody. In that case, it may be called the "third theme group," "closing theme group," or simply "closing group." In this movement, the theme in measures 45–47 and 48–51 is reminiscent of the syncopated melody of 23–31, making a connection back to the beginning of the D major key area (compare Examples 32.3 and 32.5).

Finally, measures 51–53 form a codetta that extends and repeats the cadence in D major.

EXAMPLE 32.6: Mozart sonata, mm. 51–53

Codetta



Although this exposition is similar to a continuous binary-form first section in its key areas, it is much longer and includes transitional passages and a codetta. In addition, it features harmonically stable areas in each key.

KEY CONCEPT Classical-era sonata-form expositions are usually repeated, and generally consist of the following sections:

First theme group	*Transition*	*Second theme group (optional codetta)*
Major key: I	Modulates to V	V (may include a closing theme, still in V)
Minor key: i	Modulates to III (or v)	III (or v) (may include a closing theme in the same key)

The Second Large Section: Development and Recapitulation

When you analyze the second large section of a sonata form, it's helpful to begin by identifying the return of the opening material. Listen again to the Mozart movement while following the score. Listen in particular for the return of the first and second theme groups (including the closing theme) in the second section; this return of earlier material is another similarity between sonata form and rounded binary form, but the way the two forms treat the returning material differs.

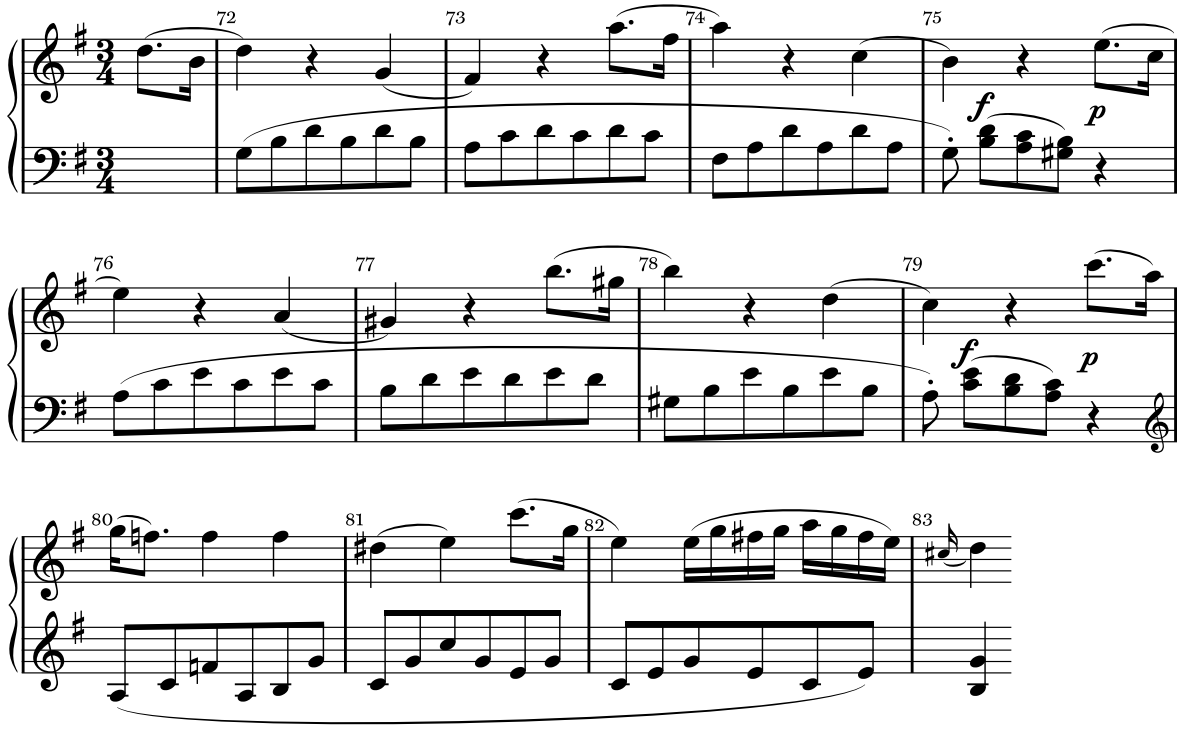
Recapitulation: Return of the Opening Material The return of

the exposition in the second large section is called the recapitulation (meaning "return to the head," or beginning). When the exposition's music returns, however (compare measures 1–53 with 71–120), some changes are customary.

KEY CONCEPT The **recapitulation** traditionally presents *all* of the exposition materials in the tonic key. The first theme group, already in the tonic in the exposition, can usually be restated in the recapitulation with little alteration. The second theme group, and closing theme if present, are usually transposed to the tonic. Since the transition no longer needs to modulate, it is altered to stay in the tonic.

Example 32.7 shows the return of the FTG in Mozart's sonata. Compare this passage with the FTG in the exposition (mm. 1–16).

EXAMPLE 32.7: Mozart sonata, mm. 72–83

Recapitulation

The first four measures of the first theme group return unchanged in the recapitulation, but the second half (4–10 in the exposition) has been replaced with a variant; this passage, based on the opening material, tonicizes A minor (ii) by means of its secondary dominant (represented by the G♯s).

The transition from the first to the second theme group, which modulates in the exposition, is usually modified in the recapitulation to stay in the original key. In this case, however, the transition passages are identical (compare mm. 16–22 with 83–89). Recall that in the exposition, the end of the transition could have been analyzed as a HC with V tonicized, except that the movement continued in the key of D. Here, the cadence *is* treated as a THC—there is no modulation—and the movement continues in the tonic key, G. Perhaps, in retrospect, the changes to the second phrase of the first theme (mm. 75–83) were intended to balance the reappearance of the transition exactly as before.

Since the second theme group and codetta (if any) are usually transposed from the key of the dominant (in the exposition) to

the original tonic for the recapitulation, we would expect measures 90–120, corresponding to 23–53, to appear in G major –and they do. We also make note of the return of the substantial PAC that confirmed the second key in the exposition (mm. 42–43); this cadence in the recapitulation (109–110), now in G, confirms the triumph of the original tonic.

Try it #1

Compare the components of the second theme in the recapitulation with those in the exposition. What has been transposed up? What has been transposed down? Has anything been changed other than by transposition?

Show answers

Development: Harmonic Instability In a rounded binary form, we would expect the beginning of the second large section to display harmonic instability through a modulation or through sequences that touch on different keys; the same is true for Classical-era sonata-form movements.

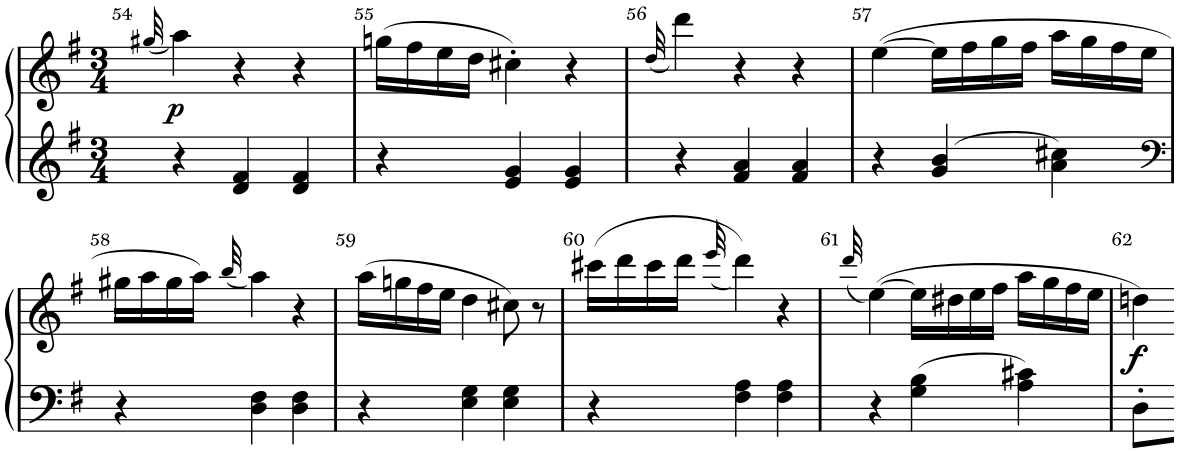
KEY CONCEPT The beginning of the second large section in a sonata-form movement is called the **development**, because in sonatas by Beethoven and later Romantic-era composers it was devoted to the development and exploration of motives and themes from the exposition. Developments are marked by harmonic instability and sequential motion, and end on the dominant to prepare the recapitulation's tonic return.

A close examination of measures 54–62 (Example 32.8) reveals few connections to the motives of the exposition. Instead, the dominant (D major) is prolonged through its own dominant, A major (hence the C♯s). Mozart's "development,"

typical for sonata-form movements of the early Classical era, is in essence an expanded version of the same type of harmonic instability and sequential material that would be found in a rounded binary form.

EXAMPLE 32.8: Mozart sonata, mm. 54–62

Development (excerpt)

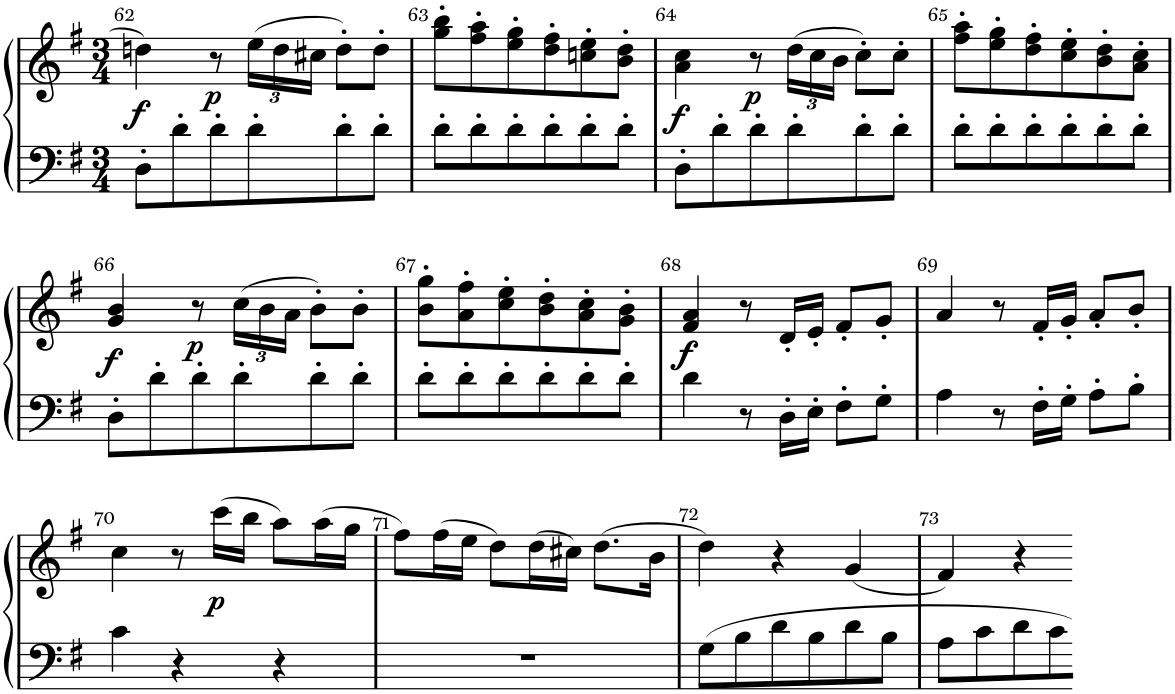


The Retransition At the conclusion of the development section, a few measures perform a special task: preparing for the recapitulation. This part of the development, the **retransition**, sets up the return of the first theme harmonically–by establishing and often prolonging the V^7 chord of the tonic key. The retransition also sets the mood for the first theme's return. In some sonata-form movements, it builds tension, making the listener anticipate the first theme's triumphant return; in others, it sets up the first theme's return almost as a surprise. Other dramatic roles for the retransition are possible, but its harmonic function is consistent: to establish the dominant seventh chord of the tonic key.

In Mozart's sonata, the retransition features a long dominant pedal, extending from measure 62 to 68 (Example 32.9). This

rearticulated pedal point, with a melodic sequence above it, builds tension but does not immediately connect to the return of the first theme. Instead, Mozart inserts two ascending pentachords (68–70), each ending with a brief rest, as if to say, "Not yet, not yet." Finally, in 70–71, a descending scalar pattern brings back the first theme.

EXAMPLE 32.9: Mozart sonata, mm. 62–73

Retransition

Listen to this retransition in several different performances: in some, the pianist will slow measures 68 and 69 noticeably, perhaps extending the rests, to heighten the anticipation; in others, he or she maintains a consistent tempo throughout.

SUMMARY

The second large section of Classical-era sonata-

form movements includes the development and recapitulation sections; it is usually repeated, and may end with a coda.

Development sections may explore thematic material from the exposition or may simply represent an area of harmonic instability. In early sonata forms, the development section is usually brief compared with the exposition and recapitulation.

Overall, typical Classical-era sonata forms consist of the following sections:

‖: *Exposition*			:‖: *Development*		*Recapitulation*			:‖
FTG	TR (MC)	STG (CT)	DEV	ReTR	FTG	TR	STG	(codetta)*
I		V		V of tonic key	I		I	
i		III			i		i	

*optional

Sonata Form in the Romantic Era

Increasing Length and Complexity

The rise of the Romantic style brought new developments to sonata form. We will look at some of these changes as they appear in the first movement of Beethoven's *Waldstein* Sonata. Listen to the entire movement while following the score in your anthology. While listening, mark any formal elements you notice—themes, transitions, phrases, cadences, key areas, and so on—and try to identify the main parts of the form. Some Romantic sonata forms also add a slow introduction and lengthy coda—listen also for these possibilities.

Some differences between the Mozart and Beethoven movements that are immediately apparent are the length—302 measures for Beethoven, 120 for Mozart—and the later sonata's chromatic and exuberant Romantic character. Mode mixture, embellishing and harmonically functional chromaticism, and sequences associated with Romantic-era harmony are all present in the *Waldstein* Sonata.

Scan through the score to find the repeat signs marking the end of the exposition (with a first and second ending, mm. 86 and 87). After you have identified the first theme as beginning in measure 1 (there is no slow introduction), mark the beginning of the recapitulation (m. 156). As this movement illustrates, in the Romantic era the development grew to balance the exposition in length and complexity, overlaying a ternary element—exposition (**A**), development (**B**), recapitulation (**A**′)—on the formerly binary-based organization.

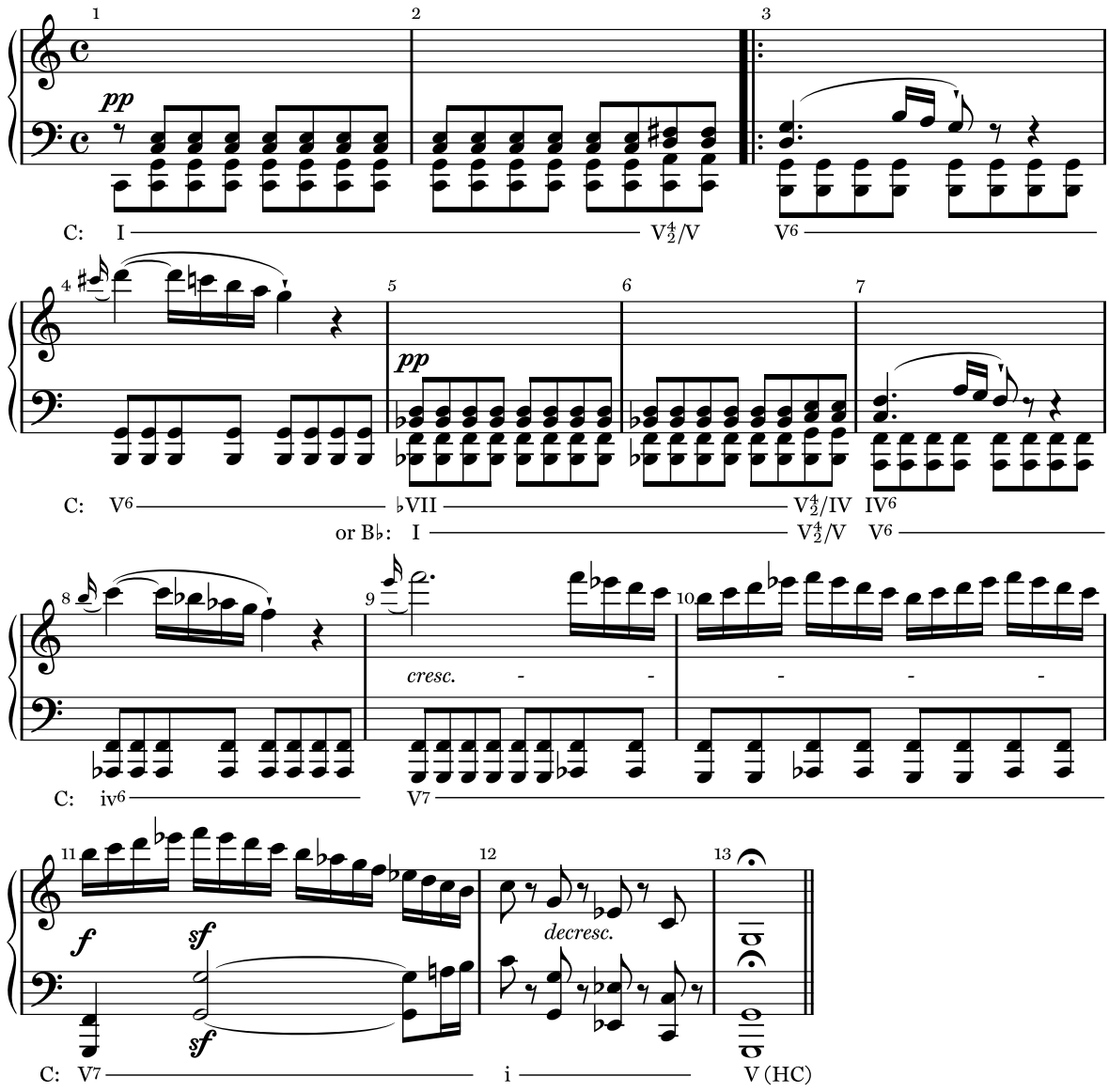
Key Areas and the Organization of the Exposition

As you focus on the exposition, consider these questions: Are the themes and transitions located where you would expect, based on the Mozart sonata model? Are the key areas what you would expect?

The first idea of the first theme group is four measures long (as in the Mozart sonata), ending on a tonicized V^6 chord (see Example 32.10). In a Classical sonata, the first phrase probably would have been followed by a phrase of similar length that ended with a conclusive cadence, making a period structure to firmly establish the tonic key. Here, however, the initial idea is abruptly transposed down a whole step to B♭ major (♭VII). This dramatic shift in harmony brings in elements of mode mixture, E♭ and B♭, which remain present through the C minor HC in measures 11–13. Measures 1–4, 5–8, and the elaboration in 9–13 display elements of a sentence structure, but with Romantic-era modification and Beethovenian innovation: the harmony of the second subphrase is ♭VII rather than the more usual V, and the length of the third subphrase is an asymmetrical five measures. There is no strong cadence in C major in the first theme group; the movement's first PAC in C major appears only at the end of the exposition, measures 85–86, in a transitional passage that prepares for the exposition's repeat.

EXAMPLE 32.10: Beethoven, *Waldstein* Sonata, mvt. 1, mm. 1–13

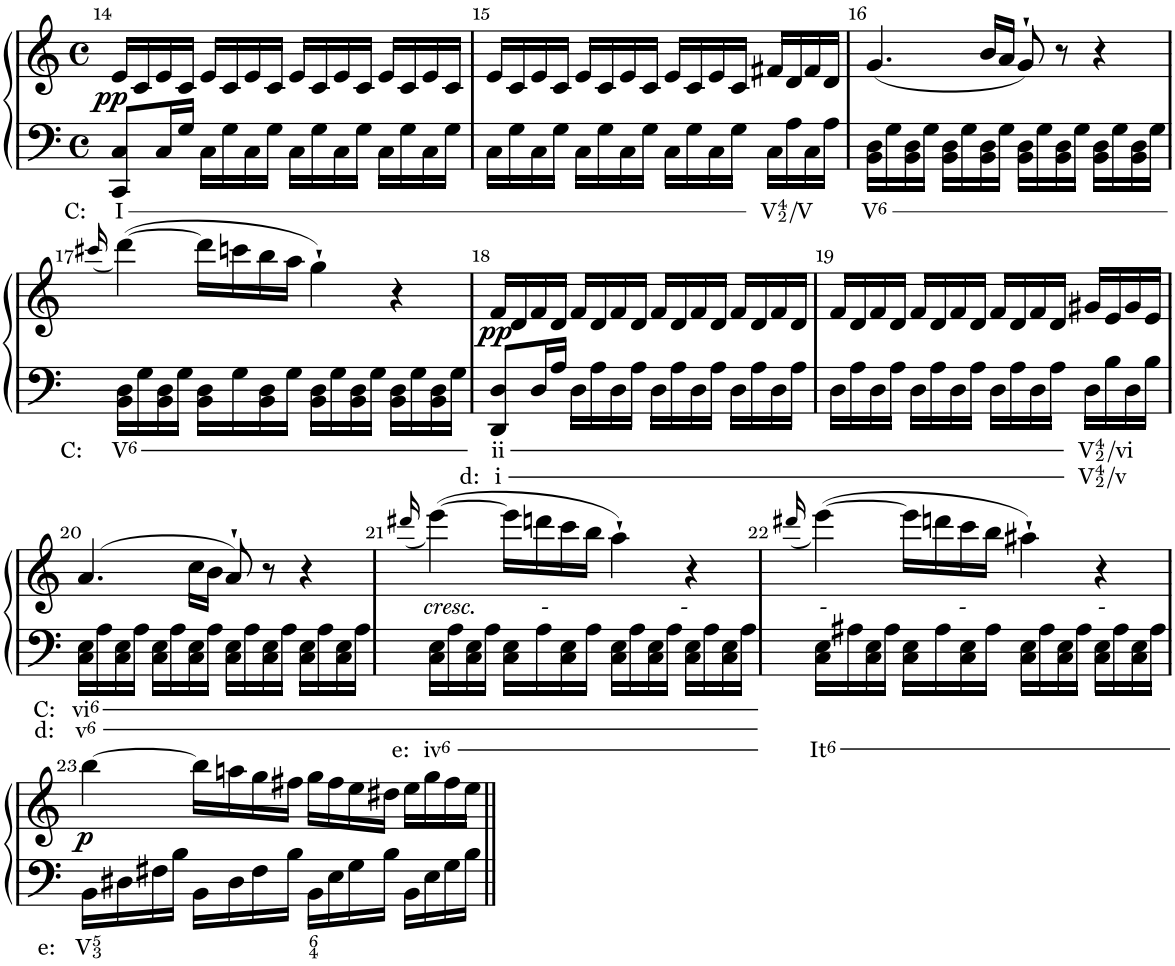
First theme group



On first listening, measures 14–17 (Example 32.11) sound like a rhythmic variation of 1–4, but in 18 the passage begins to veer in a new harmonic direction—to D minor (ii)—and then, with a chromatic inflection in 22, moves decisively away from C major toward the second key. (Two layers of Roman numerals show two possible harmonic readings of this passage.) Measure 14 is the beginning of the transition—a "dependent transition" because it sounds so much like a variant of the opening phrase.

EXAMPLE 32.11: *Waldstein* Sonata, mm. 14–23

Dependent transition (first part)



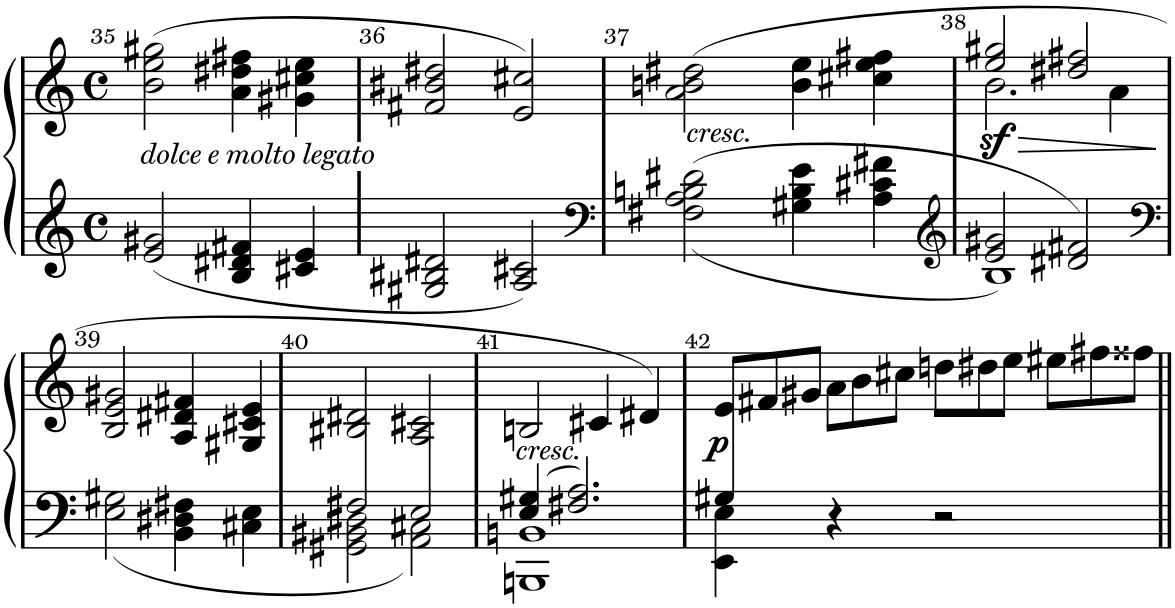
Measures 23–30 continue the transition section with a prolonged B major (and B dominant seventh) chord expanded by an E minor $\frac{6}{4}$, which implies a move to E minor (iii in C major). This dissipates into a B major arpeggiation in 29–30, then, with a dramatic change of character, connects to an ascending scale fragment in 31–34, which leads to E major (not minor) on the downbeat of measure 35.

The E major theme that begins in measure 35 initiates the second theme group (Example 32.12), identified by its harmonic stability, regular phrase lengths, and chorale-style voicing–a

hymn musical topic, which is associated in Beethoven's music with the heroic. The key of E major is related by chromatic mediant, rather than the expected G major (dominant) of the Classical-era movement, and is confirmed by a cadence in measure 42. This type of harmonic innovation is a hallmark of Romantic sonatas. The eight-measure second theme is then followed immediately by a variation (mm. 43–50), with the chorale decorated by a triplet melody in the highest part.

EXAMPLE 32.12: *Waldstein* Sonata, mm. 35–42

Second theme group (2a)

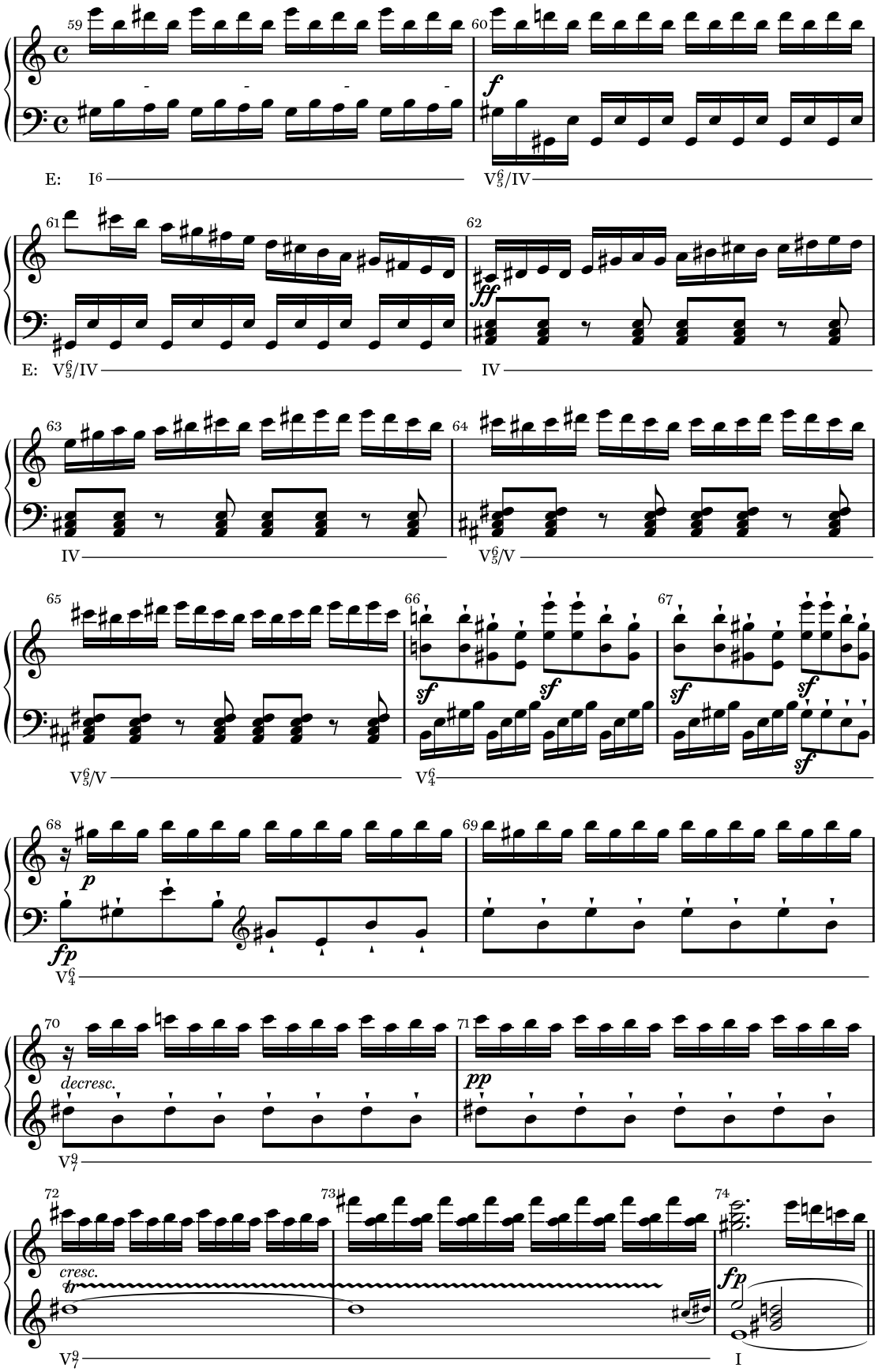


The rest of the exposition may be divided into a number of distinct subsections, all part of the second theme group. In larger sonata forms like this one, it is sometimes helpful to label the subsections of the second theme group with letters: 2a, 2b, 2c, and so on. If we call the chorale melody (mm. 35–42) and its embellished restatement (43–50) 2a, then measures 50 and following, where a syncopated rhythmic idea joins the triplets,

could be labeled 2b.

Measures 50–57 provide transitional material that prolongs I in E major. The triplets then accelerate to sixteenth notes, and the introduction of a D6 in the upper voice (m. 60, Example 32.13) turns the tonic function into V^6_5/IV, which then resolves to IV (A-C♯-E) in 62–63. A V^6_5/V in 64–65 introduces a new arpeggiating motive in 66, when the progression reaches a climactic cadential $^6_4$ chord, increasing in tension as the $^6_4$ resolves to a V^9_7 (in m. 70). This harmony is prolonged for four drawn-out measures, delaying its resolution, before the most dramatic point of arrival of the entire exposition in measure 74 —an authentic cadence in E major.

EXAMPLE 32.13: *Waldstein* Sonata, mm. 59–74

Second theme group (continuation of 2b)

59
60
f
E: I6
V6/IV
61
62
ff
E: V6/IV
IV
63
64
IV
V6/V
65
66
67
sf
V6/V
V6/4
68
69
p
fp
V6/4
70
71
decresc.
pp
V9/7
72
73
74
cresc.
tr
fp
V9/7
I

The cadence initiates a new subsection in measure 74, which we could call 2c. This passage could also be labeled the closing theme (still part of the E major second key area) or codetta, since it follows harmonic closure in E major and since it serves a dual role—as preparation for the repetition of the exposition and for the sequence that connects to the development section.

Try it #2

There are many motivic links between themes in this movement. Where, for example, have you heard the upper part of measures 74–76 before? What is the origin of the left-hand material here?

Show answers

Mm. 74–76, right hand, are similar to mm. _____.

Mm. 74–77, left hand, are drawn from mm. _____.

The Development Section

In a typical Classical-era sonata-form movement, the development section is easy to locate: it begins after the repeat markings, usually following the exposition's definitive final cadence. For this Romantic-era sonata, the situation is much less clear-cut. Listen again to the movement through measure 90 to identify the beginning of the development; the sequence in 80–89 may make locating it difficult. This sequence, the first time through, modulates from E minor back to C major for the repeat of the exposition; yet the second time through, the same music keeps spinning on past C to cadence in measure 90 (on F major), with a motion so smooth that the modulation is hardly noticeable.

To consider this question more broadly, think about the developmental aspects of the exposition: what are measures 14–22 if not a "development" of the primary theme? The "variation" of the second theme in 43–50 is developmental in nature as well. One of Beethoven's innovations in writing sonata-form movements was the incorporation of the principle of development into *all* aspects of the movement, and other Romantic composers to a greater or lesser extent followed his lead. Here, the development section is measures 90–156.

Try it #3

Which of the materials in the exposition does Beethoven explore in the development section?
Identify three elements from the exposition and where they are developed (give measure numbers).

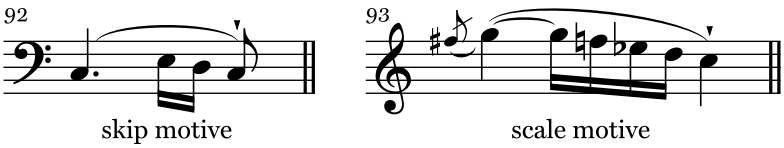
Show answers

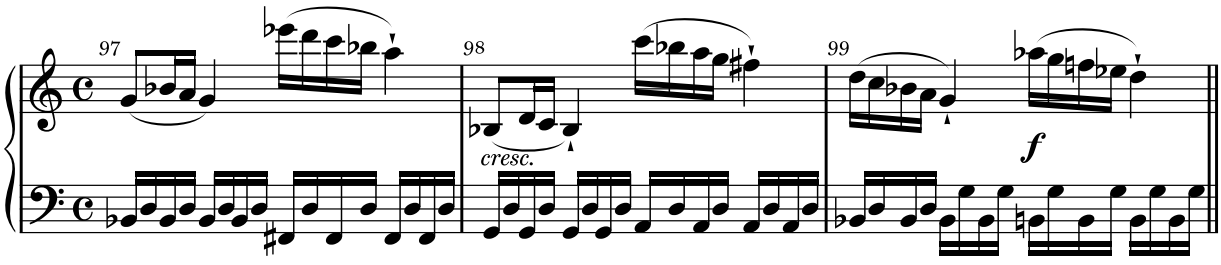
Element	*Measures*	*Where developed*
(a)		
(b)		
(c)		

Now locate the harmonic goal of the development: the retransition, which normally prolongs a V^7 of the primary key (here G^7), preparing for the key's return in the recapitulation. The first G^7 comes in measure 136, but the texture and rhythm of this passage connect it to the sequential passage that came before. A better location for the retransition is measure 142, where both texture and rhythm change and a new section clearly begins. This retransition is quite long and dramatic, beginning with the introduction of a rumbling motive and G pedal point in the bass. The development process continues through the retransition, with the sixteenth-note motive that originated from measure 3.

With the retransition (and therefore the end of the development) located, return now to consider how the development itself is structured. Of the many motives developed in measures 90–156, we will focus on two especially prominent ones, shown in Example 32.14a: the skip up a third with a stepwise return (skip motive), and the descending five-note scale (scale motive). The derivation of these motives from the first theme should be obvious; the variants and repetitions in measures 97 and following are given in part (b). Think about their role in the retransition: the "rumble" in the left hand in measure 142 might be considered a combination of the skip and scale motives. The ascending fragments in the right hand in 146–156 also feature rhythms that are reminiscent of the skip motive's sixteenths without the opening dotted quarter, with its contour inverted; other fragments seem related to the scale motive, again ascending instead of descending.

EXAMPLE 32.14: *Waldstein* Sonata

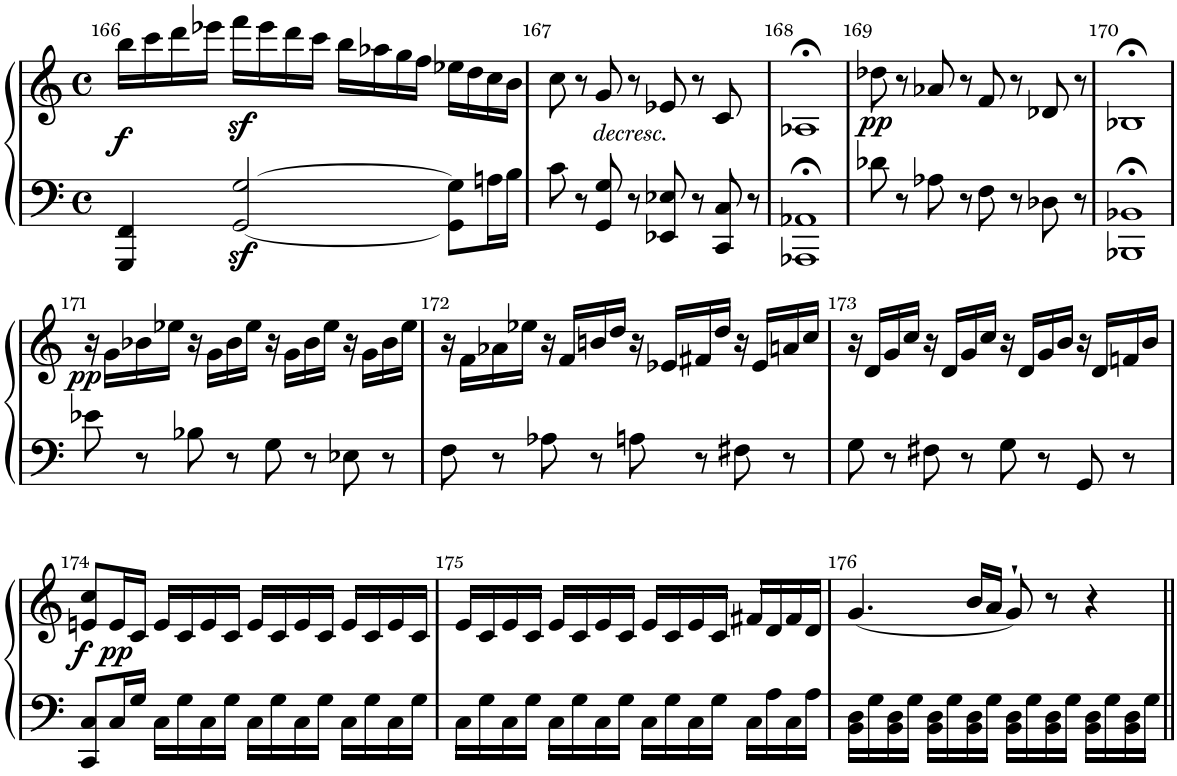
(a) The two motives from mm. 92–93

(b) The motives in context, mm. 97–99



Most of the harmonic activity of the development is built on descending-fifth sequences, and a glance at the accidentals indicates that the mode mixture of the exposition is featured here as well. Some of the tonal areas briefly tonicized include G minor (v in C major; mm. 96–99), C minor (i; 100–103), and F minor (iv; 104)—a pattern of descending fifths. Then beginning in 112, Beethoven initiates another extended descending-fifth sequence, including tonicizations of C major (I; 112–113), F major (IV; 116–117), B♭ major (♭VII; 120–121), E♭ minor (♭iii; 124–125), and B minor (vii; 128–129). While these tonicizations are brief, each may be identified by the presence of at least a dominant seventh chord and its resolution to the temporary tonic. Some of these sequences include a chain of secondary dominants, a particularly common type of chromatic sequence.

The Recapitulation and Coda

In the recapitulation, beginning in measure 156, we expect each of the main parts of the exposition to return in order, all in the tonic key. The first theme does return essentially unchanged, as measures 156–168, with one unusual and striking difference: the arpeggiated C minor triad (m. 167, Example 32.15) is followed by a deceptive move to A♭, instead of the expected G. Another arpeggiation in measure 169 spans a D♭ major chord, then ends on B♭. In such ways, measures 167–173 explore more deeply the modal mixture only hinted at in the exposition.

EXAMPLE 32.15: *Waldstein* Sonata, mm. 166–176

Try it #4

Write a Roman numeral analysis for measures 167–174 in Example 32.15. For measures with only one note, assume it is the root of a triad.

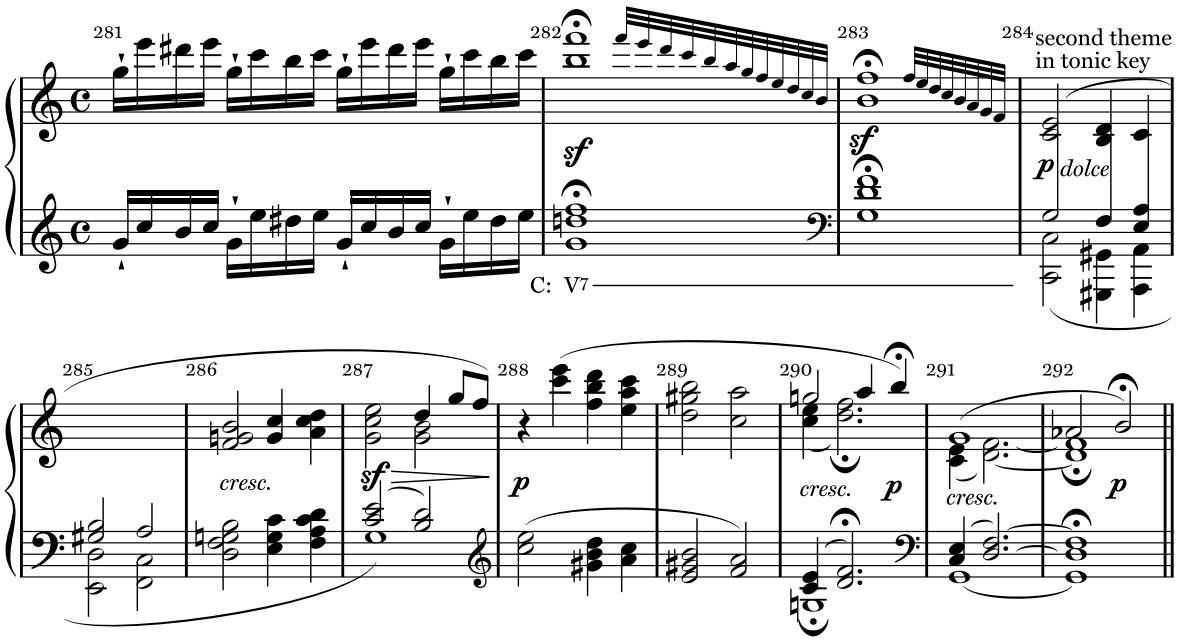
Show answers

After three measures (171–173) of new material, 14–21 return as 174–181; 22 is expanded and altered as 182–183; and 23–34 reappear as 184–195. Since the transition section in a recapitulation no longer needs to serve a modulatory function, it is usually altered, often extended, so that its sequential motion will return to the tonic key. Here, however, the chorale theme (2a, originally mm. 35–50) extends from 196 to 211 in A major, a chromatic submediant, and the transition that precedes it in 184–195 is altered to move toward A major instead of staying in C major.

In measure 200, the mode shifts to A minor, in part to bring back the expected key of C major for the triplet variation (204–211), followed by the return of 50–74, now in C (211–235). The closing theme, or codetta, starts off in measure 235 in C major, incorporating elements of mixture even more, as evidenced by all the flats. Measures 241–249 present the sequence that connected the exposition and the development. Compare 245–249 with 86 (second ending)–90: both statements suggest motion toward F major by transforming the C major tonic to a C7: V7/IV. The second time, however, the passage is colored through mixture to F minor, and the V7 resolves deceptively, to ♭VI (D♭ major, m. 249), to begin the coda. Though surprising and quite far afield from C major, this D♭ arrival has been prepared by the ♭II (Neapolitan) in the recapitulation (m. 169), and also briefly in the development (m. 134).

There are now almost three pages of music left, revealing a coda that is longer than some entire sonata-form movements. Uncharacteristically, there was no PAC in C major to initiate the coda. Further, the second theme has yet to reappear in the tonic key. This coda has the character and structure of another development section—it is a Beethovenian innovation, the "developmental coda." Measures 249–277 precede another retransition in 278–283 that ends on a strong and convincing V7 in the key of C major (Example 32.16). The resolution of the V7 in 284 forms a PAC that is elided with the "missing" second theme in C major. At the cadence in 295, all the tasks of the recapitulation are completed. A brief codetta based on the main theme finally brings the movement to an end.

EXAMPLE 32.16: *Waldstein* Sonata, mm. 281–292

Continuation of coda: Return of second theme (2a) in I

SUMMARY

In Romantic-era sonata forms:

- The exposition usually includes several distinct contrasting themes.
- The second key area is typically the dominant (major key) or relative major (minor key), but sometimes a more distant key.
- In late Romantic movements, a third key is sometimes introduced in the closing theme.
- The exposition in Romantic (and some Classical) movements may be preceded by an introduction, possibly in a contrasting tempo and/or key area.
- The exposition may or may not be repeated.
- The development and recapitulation are sometimes paired as a section and repeated, as in Classical sonatas, but often constitute separate sections that are near-equal in length.
- Typical development sections explore thematic

material or motives from the exposition and may feature sequences, modulation to distant keys, harmonic instability, or even a new theme.

- The retransition normally follows the pattern of Classical sonatas by prolonging V^7.
- The movement may end with a substantial coda, which includes additional development of the themes.

Related Forms

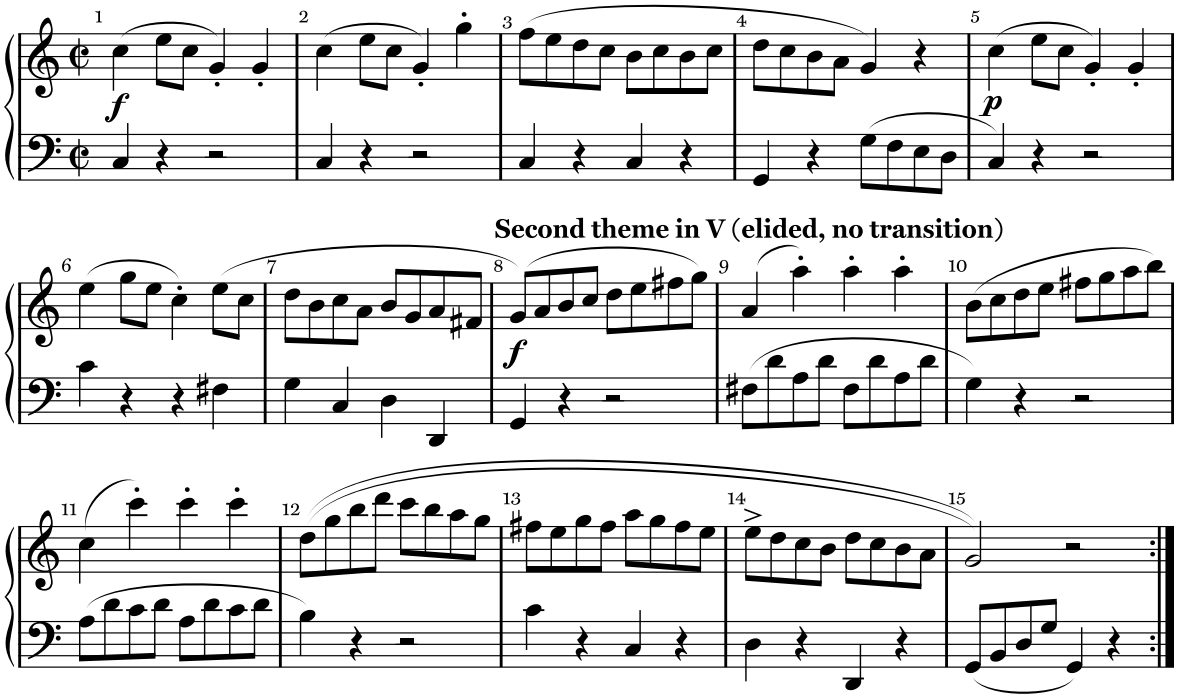
Sonatina

A **sonatina** is simply what it sounds like—a little sonata. Sonatinas are associated with Classical-era composers, but these "little sonatas" were written in the Romantic era as well, usually composed for children or beginning players.

The first movement is usually in an abbreviated sonata form, with compact first and second themes; the Clementi sonatina we have looked at before is a good illustration (Example 32.17). The first theme is a parallel period (mm. 1–8), with the second phrase modulating to the dominant (V); there is no transition—as we saw earlier, the second theme (8–15) is elided with the end of the first, and divides into 2+2+4 (a sentence).

EXAMPLE 32.17: Clementi, Sonatina, mvt. 1, mm. 1–15

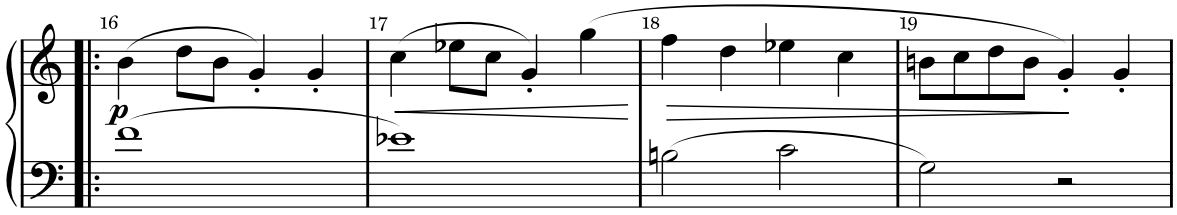
First theme (modulating parallel period to V)



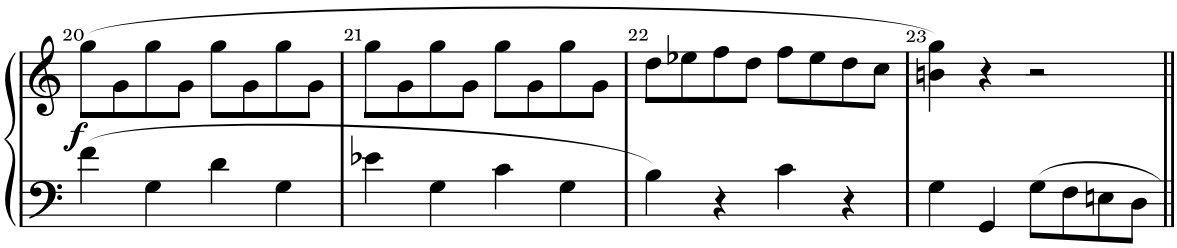
Sonatinas may have a very short development section (about the same scope as the **B** section, or harmonic disturbance, in a rounded binary) or none at all. In this sonatina (see Example 32.18), the very brief development is measures 16–23; it begins by focusing on the first theme, touching on C minor, while the retransition (m. 20) features a G pedal point and octaves reminiscent of the second theme.

EXAMPLE 32.18: Clementi sonatina, mm. 16–23

Development



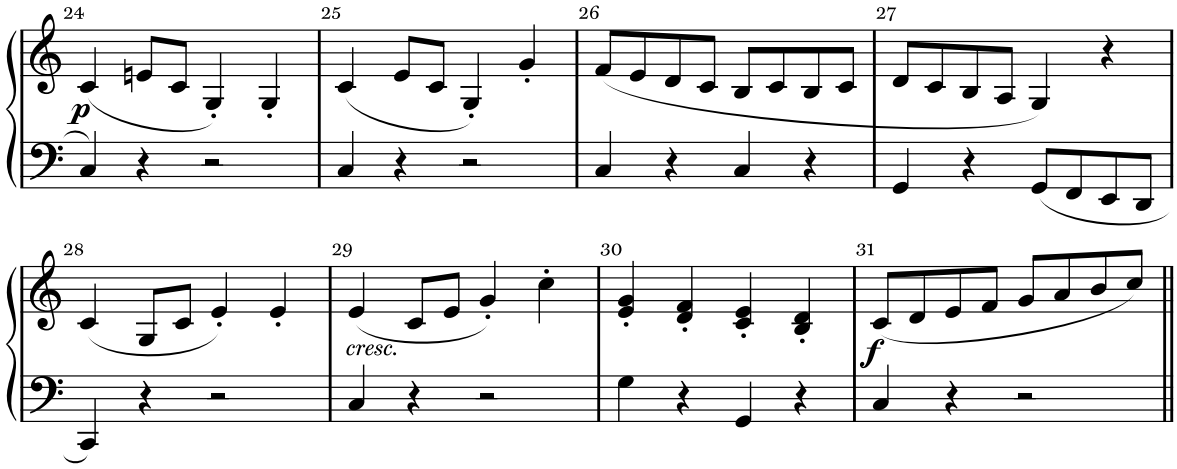
Retransition



The entire recapitulation is in the tonic key, C major, with the first phrase transposed down an octave and the second phrase a melodic inversion that stays in C major rather than modulating (Example 32.19).

EXAMPLE 32.19: Clementi sonatina, mm. 24–31

Recapitulation (parallel period in I)



This entire movement is about the size of a rounded binary form, but the arrangement of the themes, the placement of the modulations, the retransition, and the return of the **A** section in the tonic key follow the sonata-form model. The development (including the retransition) is the length we would expect of a **B** section in a thirty-two-measure rounded binary, and the whole piece is only slightly longer than that, thirty-

eight measures.

SUMMARY

Sonatina form is distinguished from rounded binary by the presence of themes, transitions, development, and other elements of sonata form—only on a reduced scale.

Concerto Form

Concertos—compositions for a solo instrument and orchestra—often consist of three movements, arranged fast-slow-fast, that follow a formal pattern similar to the three-movement sonata. Concerto first movements are similar in many ways to sonata form, but alternate sections featuring the orchestra and the soloist.

KEY CONCEPT In early Classical concertos, the first movement is often written with a "double exposition." That is, the orchestra begins the movement by playing both the first and/or second theme group in the tonic key without the soloist. Then the soloist enters and the ensemble plays material from the exposition a second time, this time accompanying the solo instrument and modulating to the dominant or relative-major key.

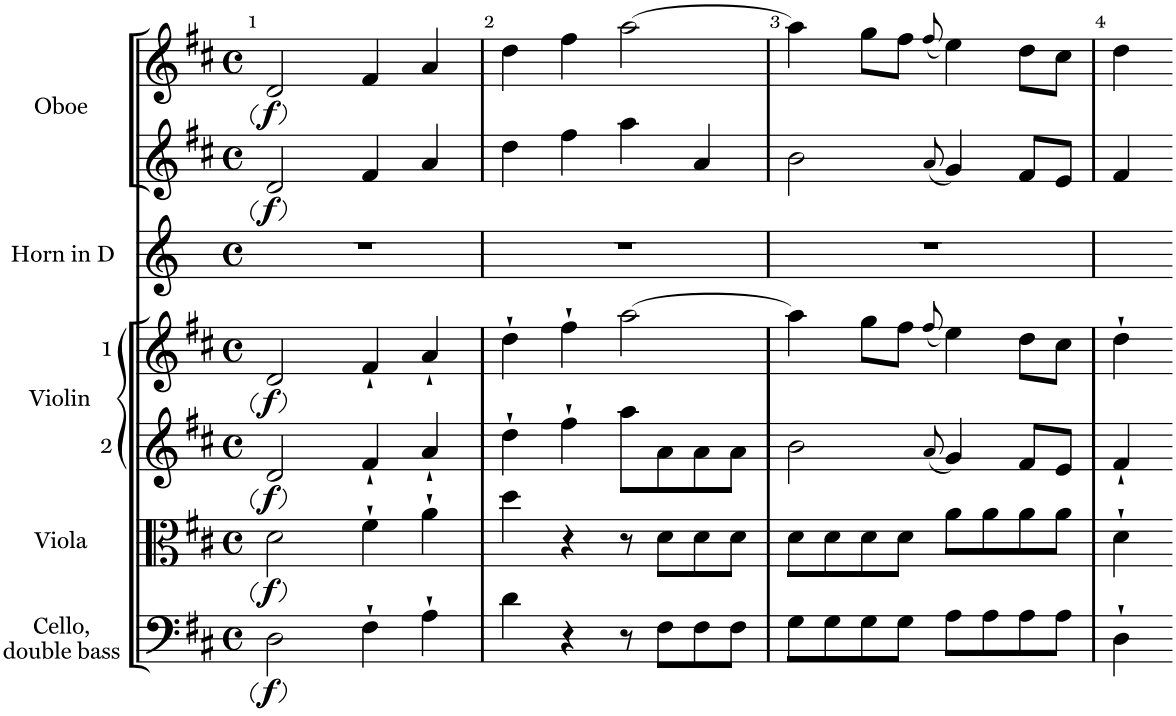
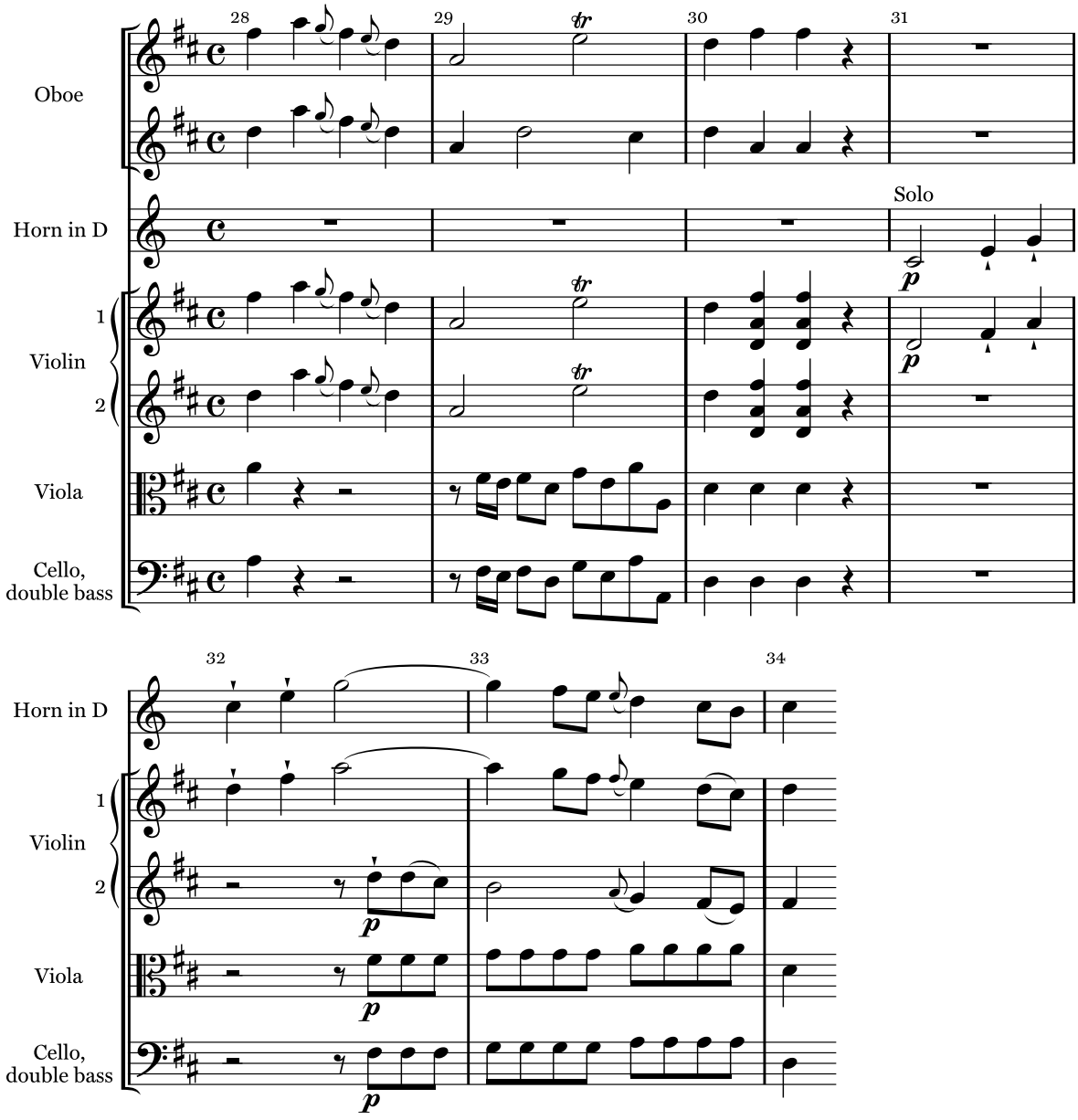
Double exposition

Orchestra			*Soloist* (with orchestra)		
FTG	TR	STG	FTG	TR	STG
I (i)	(no mod.)	I (i)	I (i)	(mod.)	V (III)

Example 32.20 shows the first theme in the orchestra in Haydn's Concerto for Corno di caccia in D Major and the later

entrance of the soloist with the same theme. (The solo horn in D sounds a step higher than notated.) The double-exposition format is not normally maintained in the recapitulation, however, where the orchestra and soloist share thematic material more equally. In later Romantic concertos, the double exposition was less favored; indeed, some concertos begin with the solo performer. When analyzing a concerto, listen for the themes and key areas—as you would for a sonata—but be prepared for variability in its formal design.

EXAMPLE 32.20: Haydn, Concerto for Corno di caccia in D Major, mvt. 1

(a) Mm. 1–4, beginning of first theme in the orchestra

(b) Mm. 28–34, entrance of horn soloist (in m. 31)

Concertos are showcases for virtuosic performers, and nowhere are their talents more evident than in the **cadenza**, a solo passage filled with rapid passagework and other technical challenges. It is generally positioned between the end of the recapitulation and the beginning of the coda, and is prepared harmonically by a cadential $\frac{6}{4}$ chord played by the orchestra, which the soloist expands. The cadenza's end is signaled in the solo instrument by a prominent scale degree $\hat{2}$ (often with a trill or other ornamentation) over a dominant-function harmony,

which resolves to the tonic with the beginning of the coda (and the re-entrance of the orchestra).

In Classical concertos, the location of the cadenza was indicated by a fermata and the word “cadenza” in the relevant language. It was expected that soloists would improvise this passage (or prepare it in advance) to showcase both their technical and compositional skills. In later concertos, cadenzas were more often composed. Today, most concerto editions include a cadenza written out by the composer, a different composer, a reputable soloist, or the score’s editor.

Performing and Listening to Sonata-Form Movements

Here are some questions you might ask as you prepare or listen to a movement in sonata form.

In the exposition:

- Which passages exhibit a stable key area?
- Where are there clear phrases?
- What is the character of each theme—is it assertive, placid, humorous, energetic, lyrical? What musical clues help you decide?
- Which passages are transitional? How does the piece modulate from the primary key to the next key?
- What is the intended effect of a transition—do the harmonies and melodic patterns indicate increasing tension that is released with the arrival of the new key, or is the section designed to flow to the new key area without the listener even noticing?

In the development section:

- Are there motives that should be brought out by the performer?
- Is the affect mysterious, agitated, seemingly aimless, joyous, or something else?
- Which keys are visited, and where?
- At what point do the harmonies begin to turn toward the home key by re-establishing the dominant?
- Is the retransition intended to build tension, to be released as the first theme reappears? Or does the return come as a surprise?

And in the recapitulation:

- When the music from the exposition returns, what has changed?
- Are there coda and codetta passages?
- Do the closing sections bring the piece to a gentle end, or do they end with a flourish?

Finally, consider the date of composition. Classical-era pieces need to be played cleanly, with lightness, precision, and grace. In the Romantic era, on the other hand, the overt expression of emotion was valued and encouraged. Think also about the drama that unfolds in the sonata you are playing. If you are a listener, ask what the performer is trying to convey. Music is about so much more than simply "music"—it expresses the emotion and flow of life. A musician who only plays the correct notes is like an actor who reads a text accurately but without feeling. If you are the performer, relish the dramatic aspects of this extended form, and your audience will too.

Did You Know?

Beethoven's *Waldstein* Sonata gets its name from the dedicatee, Count Ferdinand Ernst Gabriel von Waldstein, a German count and patron of the arts. Count Waldstein recognized the young composer's huge talent and in 1787 accompanied Beethoven on a visit from Bonn to Vienna, the city he would make his home (five years later) and where he would achieve his fame. Waldstein also arranged for Beethoven to meet Mozart on that first visit, and later recommended him to Joseph Haydn. Though Waldstein is primarily known today as an early admirer, patron, and personal friend of Beethoven, he led an extraordinary life as a diplomat. He expended much of his fortune raising an army in an attempt to defeat Napoleon in the Napoleonic Wars, then traveled to London in 1796 and joined the British

army, before finally returning to Vienna and his estates in 1809. After depleting his wealth in unwise expenditures, he died in poverty in 1823.

TERMS YOU SHOULD KNOW

cadenza
closing theme
coda
• developmental coda
codetta
concerto
development
exposition
• double exposition
first theme group (FTG)
medial caesura
primary theme (P or PT)
recapitulation
retransition
secondary theme (S or ST)
second theme group (STG)
sonata
sonata (sonata-allegro) form
sonatina
transition (TR)
• dependent transition
• independent transition

QUESTIONS FOR REVIEW

1. What key areas are expected in the exposition of a sonata-form movement in a major key? in a minor key?
2. What characteristics distinguish the first theme group from

the second theme group?

3. What are the characteristics of a codetta? Where are you likely to find one?
4. What are some common elements of a development? How do you identify where a development section starts? How do you locate the retransition?
5. How is the material from the exposition changed when it reappears in the recapitulation? Where are changes expected? Why?
6. How is Classical-era sonata form like a continuous rounded binary form? How are the two forms different?
7. What are some differences between Romantic and Classical sonata form?
8. How do you identify themes? transitional passages? In performance, how might you differentiate between themes and transitional passages?
9. How might knowing that a piece is in sonata form save you time in preparing and memorizing the music? Which sections might you compare as you prepare the work for performance?
10. How does a sonata differ from a sonatina?
11. In music for your own instrument, or for symphony orchestra or string quartet, find a sonata-form movement. How does the movement correspond to the description presented here?

Know It? Show It!

Focus by working through the tutorials.

Learn with InQuizitive.

Apply what you've learned to complete the workbook assignments.

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33 Rondo, Sonata-Rondo, and Large Ternary

Outline

Five-part rondo

- Refrain (**A** section)
- Episode (contrasting section)
- Transition and retransition
- Coda

Seven-part rondo and sonata-rondo

Large ternary form

Overview

This chapter considers three formal designs that employ contrasting large sections: rondo, sonata-rondo, and large ternary.

Repertoire

Ludwig van Beethoven, Piano Sonata in C Minor, Op. 13 (*Pathétique*), mvt. 2
Clara Schumann, *Drei Romanzen* (*Three Romances*), Op. 21, No. 1

Five-Part Rondo

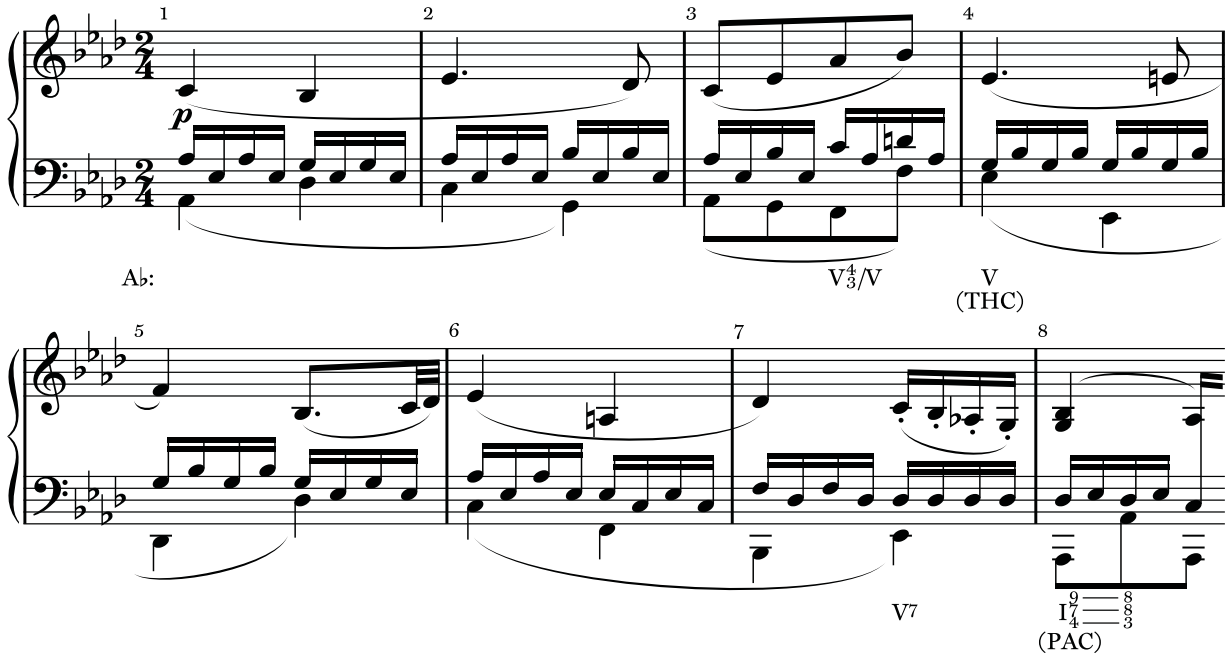
Begin by listening to a five-part rondo: the lyrical second movement of Beethoven's *Pathétique* Sonata, played on a fortepiano (a predecessor of the modern piano and the instrument for which this piece was composed). In a rondo, the music from the beginning of the movement, called a **refrain** or **ritornello**, returns several times, with contrasting sections called **episodes** in between.

Refrain (A Section)

The first sixteen measures are based on an eight-measure-long musical idea. Find each cadence in measures 1–8 (Example 33.1), then use this information to determine the phrase organization of the entire sixteen-measure **A** section.

EXAMPLE 33.1: Beethoven, *Pathétique* Sonata, mvt. 2, mm. 1–8

Refrain



The **A** section, or **refrain**, is divided into two periods—measures 1–8 and 9–16—each of which is made up of two contrasting phrases; the first phrase ends with a tonicized HC (m. 4), the second with a PAC (m. 8). Measures 9–16 are a varied repetition of 1–8. Now listen to the entire movement, and mark the returns of the **A** material in your score. We can show this initial analytical information in a form chart, leaving spaces ("not **A**") for the contrasting passages:

A	(not **A**)	**A**′	(not **A**)	**A**″	Coda
mm. 1–16	17–28	29–36	37–50	51–66	67–73
A♭		A♭		A♭	A♭

The first time **A** is restated, beginning in measure 29, the section is varied only by being shortened to eight measures, an exact repetition of 1–8; we label measures 29–36 **A**′ . The final return of the refrain, beginning in measure 51, is the same length as the initial **A**, with yet other variations: **A**″ .

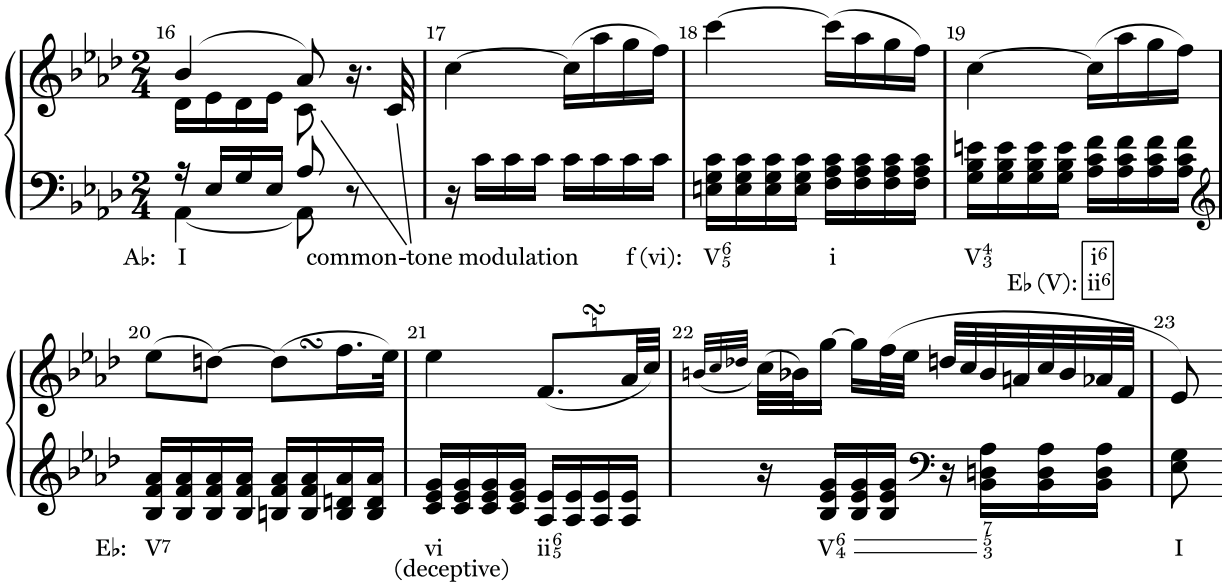
Episode (Contrasting Section)

A rondo's refrain is usually harmonically closed—it ends with a

conclusive cadence—and it returns each time in the tonic key, as in this Beethoven movement. Its phrase structure is typically balanced and symmetrical. In contrast, the first episode, **B** (shown in Example 33.2), does not exhibit four-measure phrase lengths or regular hypermeter, and is also harmonically unstable: the section begins by touching on F minor (vi of A♭), then drifts to E♭ major (V of A♭, m. 23). In addition, the leaping melody of **B** contrasts with the lyrical **A** melody. As we saw in Chapter 31, a common tone modulation smooths the connection between the harmonically closed initial refrain in measure 16 and the beginning of **B** in 17. The cadence at the end of **B** then elides with the beginning of **A′** (mm. 28–29).

EXAMPLE 33.2: *Pathétique* Sonata, mm. 16–23

Episode (B)

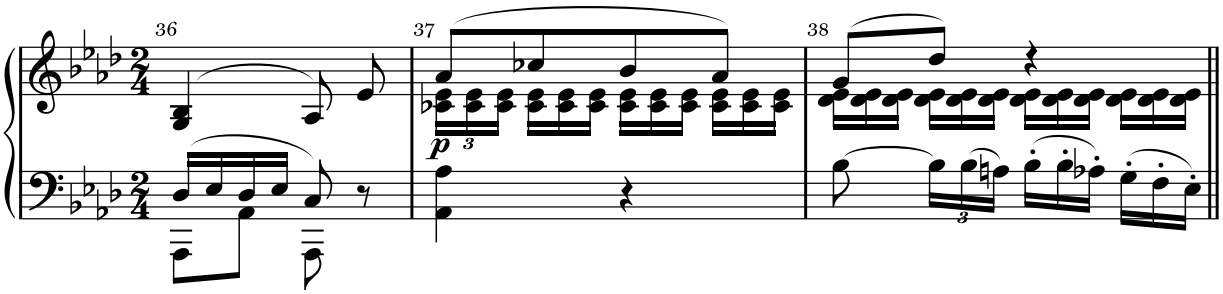


The next episode, **C**, is chromatic and dramatic, as represented by the first few measures in Example 33.3. As we discovered in Chapter 31 (Example 31.3), the initial key of A♭

minor (related by mode mixture to the preceding refrain) is followed by a modulation to E major (the enharmonically respelled chromatic submediant, F♭ major). This **C** section introduces triplet sixteenth notes that will reappear in the **A″** section, with which it elides measure 51.

EXAMPLE 33.3: *Pathétique* Sonata, mm. 36–38

Episode (C)



We can now complete the form chart of this five-part rondo, adding the keys for each section (arrows are used to indicate areas of tonal instability).

A	**B**	**A′**	**C**	**A″**	Coda
mm. 1–16	17–28	29–36	37–50	51–66	67–73
A♭	f → E♭ →	A♭	a♭ → E →	A♭	A♭

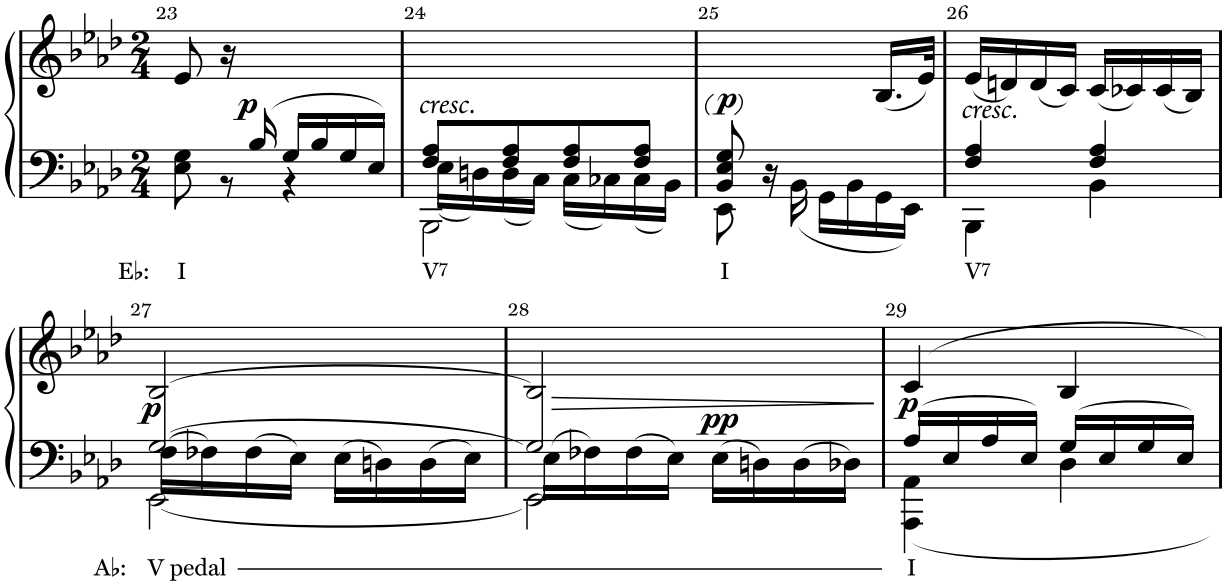
As in this movement, episodes are generally in contrasting keys and tend to fall into irregular phrases with irregular hypermeter. They may include modulations, and they may elide with the refrain that follows without achieving harmonic closure.

Transition and Retransition

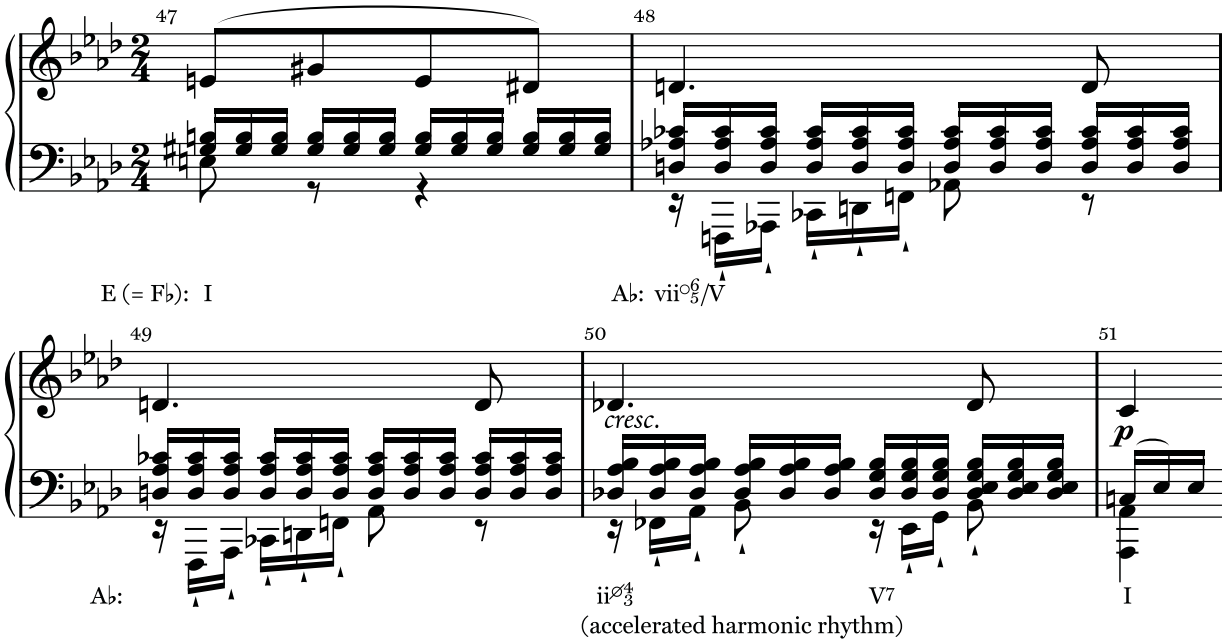
The end of an episode will often provide cues that the refrain is

about to return. For example, both episodes in the Beethoven movement end with a modulation back to the **A** section's key, A♭. In addition, the **B** section also ends with a short dominant pedal (mm. 27–28, Example 33.4), while the **C** section closes with an acceleration of the harmonic rhythm (Example 33.5).

EXAMPLE 33.4: *Pathétique* Sonata, mm. 23–29



EXAMPLE 33.5: *Pathétique* Sonata, mm. 47–51



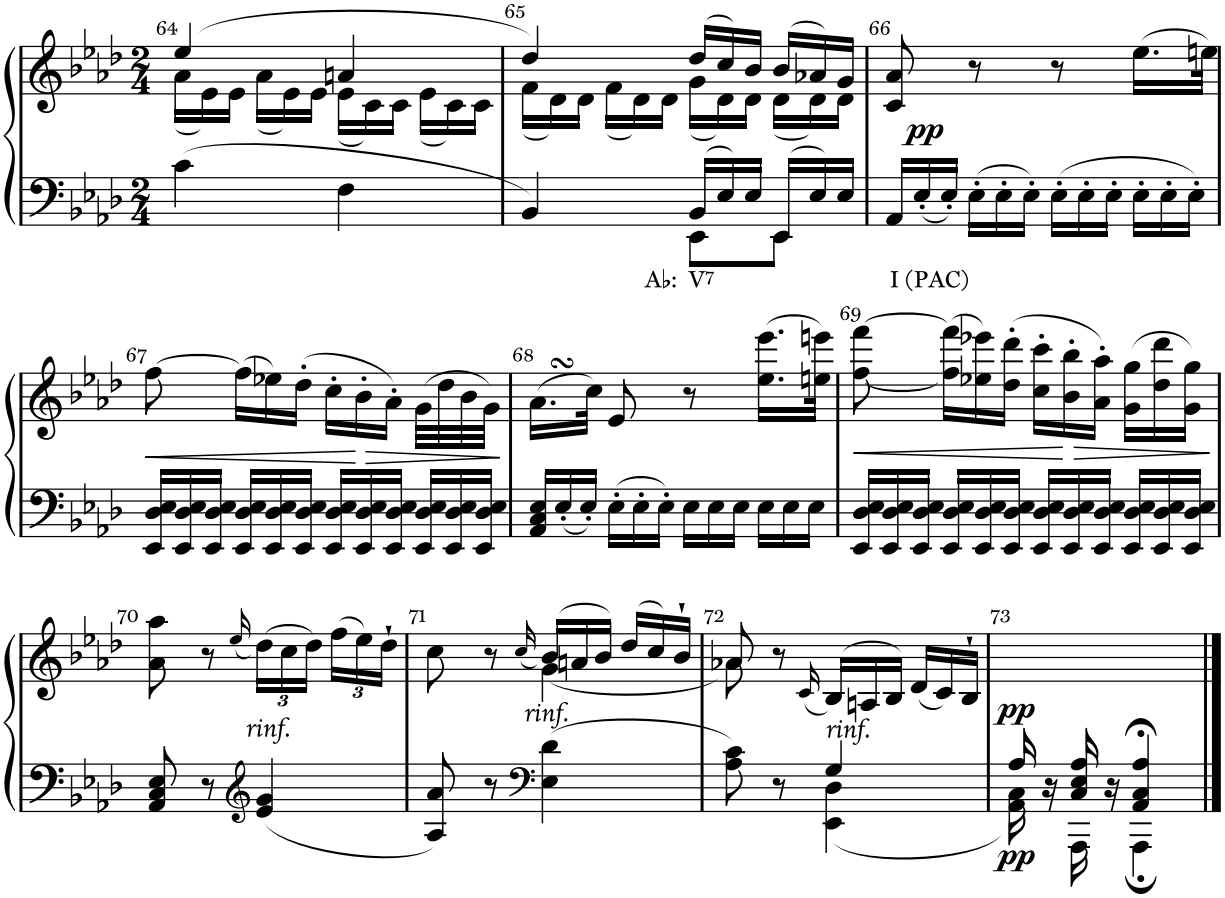
KEY CONCEPT The end of an episode, where the music begins to turn back toward the **A** section's return, is called a **retransition**. Like retransitions at the end of a sonata-form development, rondo retransitions usually prolong the dominant harmony in preparation for the return of the refrain's tonic key. In longer rondo movements, refrains in turn may be linked to episodes by transitions, modulatory passages that move toward the key of the new section.

Both transitions and retransitions in rondos usually consist of repetitions of short motives (possibly transposed) and irregular hypermeters, rather than balanced four- or eight-measure phrases. Unlike sonata form, where transitions and retransitions are expected in certain locations, they are not obligatory in a rondo; they may be absent in earlier (Baroque) or shorter rondos, but normally are present in extended rondo forms.

Coda

At the conclusion of Beethoven's rondo (Example 33.6), the **A**″ section's final PAC (m. 66) elides with the beginning of the final section—a coda. The remaining music has the character of a cadential extension, with repeated dominant-tonic chord successions. This coda fulfills multiple functions: it reminds listeners of the motives of the piece, "closes out" each of the registers (in mm. 66–68 and 68–70), and slows down the action by shortening the length of melodic ideas (mm. 70–73) until all that remains is a repeated chord to end the movement.

EXAMPLE 33.6: *Pathétique* Sonata, mm. 64–73

End of final refrain **Coda**

SUMMARY

SUMMARY

Rondo form is characterized by a repeated section (a **refrain** or **ritornello**) alternating with sections (episodes) that contrast in key, mode, texture, phrase rhythm, harmonic complexity, thematic content, and/or style. Although other designs are possible, the most common is the five-part rondo diagrammed below: **A B A C A** (plus optional coda). Romantic-era rondos may explore more distant key areas in the episodes.

Refrain	Episode	Refrain	Episode	Refrain	
A	**B**	**A**	**C**	**A**	(optional coda)
I–I	V* →	I–I	i* →	I–I	
i–i	III or v* →	i–i	I* →	i–i	
	*or other contrasting key				

Index of Terms and Concepts

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